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ABSTRACT

The quarterly publication consists of one hundred and fifty-two abstracts of periodical and newspaper articles on education in India. Some of the many topics covered are courses of study, curriculum, examination and evaluation, guidance and counseling, technical and vocational education, educational psychology, teaching methods, and history. A special section which consists of 24 abstracts on agricultural education is provided. The document is alphabetically arranged first by subject, then by author. A related document is ED 076 485. (RM)

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(Abstract Nos. A83 - A106)

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INDIAN EDUCATIONAL MATERIAL

Vol 7 No 4 December 1972

ACADEMIC ACHIEVEMENT

479 BADAMI H D, BADAMI C H: Family adjustment in relation to school achievement, sex and socio-economic status. Journal of the Gujarat Research Society 1972, 34(1/133), 1-7, 15 ref.

The family adjustment in relation to school achievement, sex and socio-economic status among 50 high and 50 low achievers of equal number of both sexes studying in four secondary schools in Ahmedabad was determined by administering a family adjustment inventory and a socio-economic scale developed respectively by Badami H D and Kuppuswami. The differences in the family adjustment was studied through the analysis of variance technique. The results are: 1) the level of family adjustment between the high achievers and low achievers differs significantly at .01 level, the high achievers being better adjusted in their families than the low achievers; 2) the degree of family adjustment differs at .01 level among the students coming from various socio-economic status; the students of high and low socio-economic status were comparatively better adjusted in their families than those of intermediate socio-economic status; and 3) the amount of family adjustment of the male students differs significantly at .01 level from that of female students, the male students being poorly adjusted than the female students.

480 MUKHERJEE B N: Multivariate relationships among measures of achievement motive and achievement values. Indian Journal of Psychology 1972, 47(3), 293-317. 87 ref.

Presents the results on the canonical correlation between projective measures of achievement motive (n-Ach) and achievement values (v-Ach). In addition, the canonical relationship between a semiprojective test of n-Ach and v-Ach has also been reported. A homogeneous group of 100 high school girl students were administered the following tests: 1) Sandig's Achievement Motivation Questionnaire; 2) Murray's n-Ach Questionnaire; 3) French's Test of Insight; 4) Mukherjee's Sentence Blank; 5) Mukherjee's Sentence Completion Test; 6) Myers' Personal Values Inventory; 7) Thematic Apperception Test. The data were processed and product-moment correlations were computed

between each pair of variables. The inter-correlation matrix for the four V Ach measures and five scales of incomplete sentence blank (ISB) were subjected to the technique of canonical correlation. The study gives support to the hypothesis that there is little association between the projective measures of need achievement and self report measures of v-Ach. An explanation of the absence of relationship between n Ach and v Ach measures not only lies in the low reliability of projective measures of n-Ach but also in the conception of achievement motive as a hypothetical variable similar to the concepts of need or drive.

481 RENA, KANSAL M R: Some characteristics of low achievers as rated by their parents. Quest in Education 1972, 9(4), 206-13. 6 ref.

The ratings by parents of 75 low achievers (35 boys and 40 girls) of IX class selected on the basis of house examination marks from the high schools of Patiala City, were recorded on a modified form of Parkyn's Rating Scale. This five point Scale was used to obtain information regarding the physical, moral, social, emotional and intellectual characteristics, and socio-economic background and interests of the sample selected. The findings are as follows: The parents rated that: 1) the low achievers (boys) were below average in physical, social, moral, emotional characteristics and in intellectual traits; 2) girls (low achievers) were (i) above average in physical, social and moral characteristics, (ii) average in emotional characteristic and (iii) below average in intellectual traits; 3) both boys and girls were below average socially and economically; 4) girls were less interested than boys in school subjects, cinema, radio and other hobbies.

482 SETH N K, PRATAP S: Study of the academic performance, intelligence and aptitude of engineering students. Education and Psychology Review 1971, 11(4), 3-10. 4 ref.

For success in any educational field and later in one's job, it is believed that a happy combination of general intelligence and an aptitude for the particular field is essential. Tests of Intelligence (OTIS) and Engineering Aptitude (Mechanical reasoning and space relations) were administered to 60 final year engineering students of each of the three branches - civil, mechanical and electrical. Marks of these students for high school and intermediate examinations were collected and mean percentage of pooled marks was calculated. Similarly the three year BE marks were pooled and single mean percentage for individual and percentage mean for all branches were obtained. Correlations and CRs were also calculated for all examinations and tests. The following are the results: 1) examinations,

neither non-professional nor professional offer a valid or very reliable measure of general intelligence; 2) there is a positive relationship between general ability and aptitude; academic performance in technical studies does not clearly reveal the combined effect of the two; 3) not all students who take up engineering studies are endowed with an aptitude for it; 4) comparative performance of the three groups on the basis of BE marks and DA tests differs. The DA tests provided better discrimination between the groups tested.

483 VIDHU MOHAN, NEHRU K: Differentiation of over and under achievers on 16 PF. Psychological Studies 1972, 17(2), 51-5. 16 ref.

A sample of 100 college students (50 male and 50 female) of Ambala, in the age-group of 17-22 years, was selected using the Standard Progressive Matrices Test of Raven (1960) and the Crowan's (1960) method of selecting the over and underachievers. The Vyaktitva ki Kodashanshi Janch (Jalota and Kapoor 1964) a translated version of Cattell's 16 PF (1950) was administered to the sample of over and under achievers. The analysis of the data indicated that the under and over achievers differed significantly on nine factors. The overachievers had significantly more of super-ego strength (conscientious persistence), shrewdness (sophistication), radicalism, higher self sentiment, and higher ergic tension. The under achievers had significantly more of general intelligence, emotional stability, dominance and premsia (sensitive effeminacy). Sex differences too emerged significant in 8 out of the 16 factors. The male Ss had more of cyclothymia (sociability), surgency, adventurousness, tough realism, and lack of serious concern (antia). The girls had more of higher general intelligences, character or super-ego strength, and guilt proneness.

ADMINISTRATION AND ORGANIZATION

484 DAVID C: Harnessing local resources for the welfare of the school. Educational Forum 1972, 17(3-4), 1-5.

The attainments achieved by harnessing local resources at Government Higher Secondary School, Amarwara, District Chhindwara have been enumerated as: 1) electrification of the school building; 2) expansion of the school building; 3) preparation of table-type terraces; and 4) construction of a stage to conduct cultural programmes. The future plans of the school are indicated.

485 INDIA. MINISTRY OF EDUCATION AND SOCIAL WELFARE. The Central Advisory Board of Education. New Delhi, the Ministry, 1972. 17p.

The constitution and the present composition of the Board are given.

486 LODI I H K: Some practical hurdles in the implementation of the school complex programme. Educational Forum 1972, 17(3-4), 13-18.

The Education Commission recommended the formation of school complexes at various levels of the education system to make education a continuous and organic process. The following observations have been recorded with regard to the implementation of the School Complex programme in Madhya Pradesh schools: 1) the two-tier scheme of the School Complex recommended by the Commission at the levels of middle/upper primary schools, and the Secondary schools, requires the organisation of workshops, seminars and training to bring about mental preparedness amongst teachers; thus, a vigorous programme of popularising and propagating the scheme even at the initial stages need be undertaken by the Education Department; 2) financial aid to meet the contingent needs was evident to experiment the programme; the Education Department thus, need make a provision for the funds and for the successful implementation of the scheme; 3) a number of schools were ill staffed; the Education Department would be required to take note of the urgency and arrange for leave-substitutes; 4) no attempt was made to solicit the public cooperation for the working of the School Complex programme; the information and publication department of the Government could popularise the scheme and enlist public cooperation; 5) due to reorganisation of education pattern in Madhya Pradesh, the new pattern of School Complex would be: first tier at elementary and upper primary stage, a second tier at high school level and a third tier at the junior college stage; new school complexes of high schools attached to junior colleges could be constituted to make the experiment complete and comprehensive; 6) difficulties were experienced by the junior college and some middle school staff with regard to the primary school working hours; uniformity in timings and proximity of constituent schools need be taken into account for forming school complexes.

487 MALIK S C: Ed. Management and organization of Indian universities - proceedings of a seminar. Simla, Indian Institute of Advance Study, 1971. xviii, 283p.

This is a compilation of the proceedings of a seminar on management and organisation of Indian universities held under the auspices of the Indian Institute of Advanced Study, Simla and Mysore University in Mysore in January 1971. It includes apart from usual papers, two case studies, one of Delhi University and the other of an anonymous university of U.P. The papers deal with the following topics: 1) problem of numbers of pressures on the system; 2) relevance of courses of study with regard to emergent social realities and the necessary processes of change; 3) structures and channels of authority within the university vis-a-vis the University Grants Commission, Inter-university Board of India and Ceylon, and Government; 4) faculty and departmental organization; 5) relations between teaching and administrative staff and the allocation of responsibility; 6) standardization of methods of teaching and student management; 7) financial management, evaluation and planning for development; 8) relations with management of colleges; 9) problems of education in general. Some salient recommendations of the seminar are: 1) although no more universities or colleges should be started for some years to come, there is need for social justice in the matter of providing equitable opportunities for all strata of society; 2) the university bodies should be teacher-centred; 3) joint student teacher - administrator consultation committees should be established; 4) there should be more than one professor in departments which branch off into several specialised areas, and all members of the department should have a say in its work; 5) there should be a panel consisting of the nominees of the Inter-university Board and the University Grants Commission for inspecting affiliated colleges; 6) Governors of States should function as chancellors but independently of their political office; the vice-chancellors should have some pro-vice-chancellors to help him; there should be in-service training for university administrators; 7) universities need a systems analysis approach to their financial management and administrative routine; 8) students should be involved in the courses which are offered to them; 9) the medium of instruction even at the highest level should be the regional languages but importance should be given to an international language like English.

488 [illegible] G S: Sick colleges. Hindustan Times 10 November 1972, p.7, cols. 3-8, 1400 words.

The different types of sickness private colleges suffer from are: a) student unrest due to which they remain closed for the major portion of the academic year, b) financial troubles, c) low standard due to poor quality of staff, d) corrupt management,

o) large enrolment or poor enrolment. These different maladies require different remedies; but nationalisation of private colleges is not the solution. It may be useful to have zonal councils of seasoned educationists consisting of eminent teachers and management experts under the auspices of the university to look after and nurse colleges in a particular region. Reform of such colleges is linked with the larger question of governance of colleges, restructuring of courses and making higher education both relevant and vocational. There is an urgent need to tighten the financial control of private colleges. The UGC can set up an accreditation council to preserve uniformity in standards of teaching and research. The principals of colleges should receive some kind of inservice training in administration in the universities, the Administrative Staff College, Hyderabad or the Asian Institute of Educational Planning and Administration.

ADULT EDUCATION

489 ALL INDIA ADULT EDUCATION CONFERENCE, 25TH, BOMBAY, 1972: Resolutions. Indian Journal of Adult Education 1972, 33(11), 5-6.

The following resolutions were passed: 1) a nation-wide programme of literacy should be launched in order to liquidate illiteracy within a period of 10 to 15 years; 2) the people in the lowest income groups should participate in the process of economic development and a small percentage of plan outlays should be reserved for simultaneous and built-in training of the participants and of beneficiaries of the schemes; 3) the concept of life-long education should be made a reality by inter-relating all aspects of education, using all available methods and mass media like radio, films and television with proper coordination; 4) voluntary agencies should be encouraged to organize adult (continuing) education schemes in their areas with the help of government aid; 5) the universities should organize courses for the adults engaged in various professions and should also include adult education as a subject in the courses of study.

490 DRAPER J A: Towards a participating society. Indian Journal of Adult Education 1972, 33(11), 11-14. 6 ref.

The three major principles discussed are - 1) that learning is a life-long and continuous process, 2) that many institutions (the university for example) have specific roles to perform in helping to facilitate this process, and 3) that specific skills and theoretical/subject-matter knowledge is required by those primarily and most directly involved in planning and implementing adult learning and educational goals.

491 DUTTA S C: Adult education for democracy. Indian Journal of Adult Education 1972, 33(11), 15, 16, 20.

A plea has been made for making adult education for democracy as the main component of adult education programmes in India in view of the envisaged large scale restructuring of society based on social justice, equality of opportunity and freedom of thought and action. Adult education for democracy should keep pace with adult education for transfer of technology and vocational skills to the fields and factories. The curriculum should include a historical narration of the main events in India's freedom movement and the advent of modern parliamentary democracy in India, the essentials of the Indian Constitution including the machinery of political organization, the electoral system, duties and obligations of citizenship, the rights of the individual and the judicial system. The programme should be undertaken by voluntary agencies and organized informally.

492 DUTTA S C, FISCHER H J ED: Training of adult educators - proceedings of a seminar held in New Delhi, March 1972. Bombay, Shakuntala Publishing House, 1972. 164p.

This regional seminar was organized and sponsored jointly by the Asian South Pacific Bureau of Adult Education (ASPBAE) and the Friedrich - Naumann - Stiftung of Bad Godesberg, West Germany for bringing together talents from many a country in order to scrutinize some special aspects of adult education in South and South East Asia in depth. Representatives from eight Asian countries, UNESCO, ILO and International Cooperative Alliance participated in the seminar. The delegates focused on the importance and need of adult education particularly in its relation to mass and functional literacy and community organization. Four major conclusions arose from the deliberations: 1) it was felt that adult education was of paramount importance to all the countries; 2) the objectives of adult education, i.e., to enable people to become self-reliant and to enable them to understand their problems are essentially the same for a rural and an urban setting; 3) the role of supervisors and field workers was considered to be the most important one, they should receive adequate administrative and professional training; 4) South Asia needed an international training centre for the training of leaders of adult education profession.

493 NAYAR J C: Concept of life-long education for adults. Indian Journal of Adult Education 1972, 33(11), 7-10, 30.

The adult education programmes should not only help the adult to play effectively his roles as a wage earner, as a citizen, as a family man and as a man with some leisure, but more especially help him improve his skills to step up his income. The three issues underlying the concept of life-long education for adults are - development of an integrated adult personality, establishment of proper contacts between adult education and schools, colleges, professional educational centres and other kinds of institutional programmes, and creation of an interest in the adults for self-study and self-learning. It has been opined that the programme of life-long education should not be controlled by any agency with vested interests and that small groups of adult learners should be promoted, the members of which would be held together by common interest and which would strengthen the will of the individual to seek through the agency of the group more information, more clarification and better opportunities for expressing himself.

494 PANT S K: Content of adult education programme in the context of life-long education. Indian Journal of Adult Education 1972, 33(12), 3-8.

In addition to general and functional literacy, the programme of continuing education may take a variety of forms and provide for remedial education, refresher and reorientation courses, and also provide opportunities for analysis of social and economic problems, cultivation of skills of citizenship for living in plural societies, cultural enrichment and creative use of leisure. The adult education programme may include the following: 1) professional courses designed to bring up to date the knowledge of teachers, scientists, doctors, etc; 2) courses in human relations in leadership and executive skills, and decision making processes; 3) courses in humanities, social sciences and liberal arts; 4) training programmes for leaders in continuing education, community development and voluntary organisations. The Indian university should accept the responsibility for continuing education and establish a centre for it with a whole-time core staff. The Centre should assess the needs of the community and prepare a phased programme before launching the scheme.

495 PILLAI K S: Impact of functional literacy programme on the learners in Kerala. Indian Journal of Adult Education 1972, 33(10), 7, 8, 18.

The study was made to evaluate the impact of functional literacy programme on the learners in the Adhiyannur Block, where work started on the 1st of December 1971. The teachers were requested to fill an inventory form eliciting the needed

information from the learners regarding their study and learning, their profession, age, marital status, etc. A final test was conducted in the second half of April at every centre. Based on the scores obtained by the learners in the test and the data collected by the teachers, a detailed analysis was made. It was found that there was a positive effect of teaching in the literacy centres on the gains achieved in the literacy and numeracy aspects. The effectiveness of the instruction was also revealed by the fact that nearly 1/3 of the learners could read unseen passages at a satisfactory speed.

496 ROKADIYA B C: Designing a scheme for Polyvalent Adult Education Centres in Asian countries - a suggested outline. Indian Journal of Adult Education 1972, 33(10), 3-6, 19, 20.

The importance of institutionalizing the adult education programme is being increasingly recognized by the developing Asian countries. To be effective, any programme of adult education in these countries should be linked with the social and economic needs of the individuals concerned and related to the technological development and social and economic changes in which they live and work. It is essential to devise an integrated approach to adult education and polyvalent adult education approach seems to be a viable solution from the experience of the working of the Polyvalent Adult Education Centres started by Government of India under assistance from UNESCO. Although the Indian experience regarding this new multifaceted approach has been confined to urban areas, the Polyvalent Adult Education Centres should be started in rural areas also on an experimental basis. Each centre may develop specific need based programme for men, women and non-school going youth of the community, whether urban or rural. The suggested outline deals with the following aspects - objectives, functions, programming, methods, material and forms of teaching, staff, financing and budgeting, management and organization.

497 SHARMA K L: Attitudes towards adult education. Indian Journal of Adult Education 1972, 33(12), 10-12. 4 ref.

The study was made on a sample of 180 unselected individuals - 30 participants of regular adult education course (B.A. Ed.), 50 literate citizens of Jaipur, 50 Rajasthan University teachers, and 50 postgraduate students of Rajasthan University. They were first asked to write their views about adult education and then administered an attitude scale- Attitudes Towards Adult Education (T. Adolph and R.F. Whaley, 1967) individually. It was found that the students of adult education course had most positive views about adult education. The university

teachers and students were next in order. The literate citizens had negative attitudes. Most of the students of adult education course gave a bookish definition of adult education and emphasized that adult education is a continuing education. The teachers did not have a clearcut idea about adult education and stressed all types of education except formal education. The postgraduate students thought adult education was essential for better life and that the rural illiterates should be informed about the world around.

COURSES OF STUDY

498 BASHRUDDIN S: Mass communication education in India - an overview. University News 1972, November, 16-19.

An assessment of mass communication education in India has been made with reference to the role played by various national institutions like the Indian Institute of Mass Communication, New Delhi, the National Institute of Community Development, the Press Institute of India, the All India Radio, the Press Information Bureau, and many other private agencies and universities. India has now come to accept mass communication education as an instrument of social change. The next necessary step is that of initiating or upgrading mass communication education preferably with an inter-disciplinary approach and applying the findings to socio-economic development. Also, there is an urgent need to set up an Advanced National Centre for Mass Communication Research and Study to coordinate the work of different regional institutions.

499 KRISHNASWAMI O R: Research in colleges. Education Quarterly 1972, 24(1), 16, 17.

The book-centred, ivory tower type of college education should be changed into life-centred purposeful education combining teaching with research and extension. It is suggested that colleges should undertake applied research in fields such as engineering, technology, agricultural sciences, agricultural economics, sociology, psychology, social work, home science, commerce, banking, etc. It is essential to train faculty members in research and in guiding research work. Summer schools may be organised in collaboration with research institutions to offer training courses in research methodology to faculty members. Opportunities should be provided to faculty members for doing research. A department of research may be opened in each college. In order to ensure utilisation of research results, it is necessary to involve the users of research findings in the planning stage itself and select problems of practical significance. This will bring together the educational institutions, the Government and the industry.

500 MANGAL S K: Sādhāraṇ-ganit-śikṣaṇ (= simple mathematics teaching). / Hindi /. New Delhi, Arya Book Depot, 1971. 260p. 25 ref.

Contains discussion on the following topics: 1) importance or value of teaching mathematics and its place in school curriculum; 2) objectives of teaching mathematics; 3) relation of mathematics with other subjects; 4) correlation in teaching of mathematics; 5) curriculum in mathematics; 6) methods of teaching mathematics; 7) defects in the present-day teaching of mathematics and their possible remedies; 8) arousing and maintaining interest in teaching of mathematics; 9) textbook of mathematics; 10) mathematics teacher; 11) mathematics laboratory and library; 12) audio-visual aids in teaching of mathematics; 13) oral, drill and home work in mathematics; 14) teaching of arithmetic; 15) teaching of algebra; 16) teaching of geometry; 17) teaching of household accounts or domestic arithmetic; 18) planning mathematics lessons; 19) evaluation in mathematics; 20) history of mathematics.

501 SHAH M R: Piaget's theory and science teaching in elementary school. Journal of the Gujarat Research Society 1972, 34(1/133), II-VIII. 3 ref.

Piaget's contributions towards child psychology have been discussed. The three main stages in Piaget's theory of the development of thought viz., the sensory motor period extending from birth to 2 years, concrete logical operations period covering 2 to 12, and the period of logical operation from 12 to adolescence, have been briefly described. The elementary schools cover the second stage which can further be classified into pre-operation thought stage (2-7 years) and the stage of concrete logical operations covering 7-12 years. At the pre-operational thinking stage, ego-centricism behaviour of the child leads to the stage of representation which further helps the child to attain concrete operational stage. As the child at pre-operational stage would be at the transitional level of thinking, the primary education programmes should be planned accordingly. At the formal operational stage, the child would be able to enunciate, analyse, evaluate, hypothesise and develop hypothetic-deductive reasoning. Therefore, a well structured sequence of scientific activities and experience which give the child wide opportunities to interact with the environment should be made available in elementary schools.

502 VASUDEVA BHATTA N: Work-experience in secondary education. Educational Forum 1972, 17(1, 2), 30-6.

The importance of inculcating the dignity of manual labour into the minds of the school children has been emphasised. An irrigation task project undertaken by the school children of the Anandashrama High School - an agriculture oriented secondary rural school at Mangalore has been illustrated.

EDUCATION : GENERAL

503 ALL INDIA NATIONAL EDUCATION CONFERENCE SEVAGRAM, OCTOBER 1972: [Proceedings]. Quest in Education 1972, 9(4), 177-80, 205.

Discussing the working paper entitled 'Linking Education with Growth and Social Justice' prepared by Shriman Narayan, Chairman of the Nai Talim, the following points have been put forth: 1) imparting education at all levels through socially useful and productive activities linked with economic growth and development in both rural and urban areas; 2) emphasising (i) self-reliance and confidence as an integral part of educational programme, (ii) the spirit of nationalism and social responsibility by involving pupils and teachers in community service programmes, and (iii) ethical and moral values, at all levels of education; 3) making the educational structure 10+2+3 and reducing the vacations; 4) opening primary and secondary schools to all children; 5) encouraging educational institutions which conduct new experiments in teaching methods, examination system, curriculum, preparation of text book and training of teachers; 6) making efforts to curb malpractices prevalent in private institutions; 7) taking steps to adopt regional languages as media of education at the university level; 8) conducting all-India competitive examinations for civil and military services through the regional languages and selecting the candidates on the basis of quota allotted to each State on a rational basis; 9) reforming the present examination system, by introduction of continuous internal assessment system and encouraging practical work and viva voce tests; 10) delinking employment with Degree; 11) improving the quality teacher training programmes; 12) involving parents in the task of educational reconstruction; 13) associating pupils in the policy-making processes of educational reforms; and 14) developing games and sports in schools and colleges.

504 BISWAS A, AGGARWAL J C: Education in India 1971. New Delhi, Arya Book Depot, 1972. xv, 255p.

This volume presents an account of the recent developments, achievements, problems and prospects in the field of education. Attempts have been made to incorporate comprehensive information on the various aspects of education in India. Various programmes and activities of the Ministry of Education, State Governments, NCERT and UGC during 1970 and 1971 have been outlined. Recommendations of various committees and conferences on education held during 1970 and 1971 and various programmes of fourth Five Year Plan have also been given.

505 INDIA. MINISTRY OF EDUCATION AND SOCIAL WELFARE. DEPARTMENT OF SOCIAL WELFARE. Annual report 1971-72. New Delhi, the Department, 1972. 119p.

While making a review of the progress of work of the Department of Social Welfare, the following topics concerning education and training have also been discussed: 1) research, training and administration in social welfare; 2) educational work on prohibition; 3) education, training and rehabilitation of the handicapped; 4) pre-vocational training programme; 5) statement of number of candidates trained by coaching centre; 6) statement showing the provision made for pre-examination training.

506 INDIA. MINISTRY OF EDUCATION AND SOCIAL WELFARE. Report on educational developments in India 1970-71 - presented at XXXIII International conference on Public Education, Geneva, September, 1971. New Delhi, the Ministry, 1971. 69p.

The following are the contents of the report: 1) the country and its educational system; 2) administration of education; 3) structure of education; 4) quantitative development; 5) curricula, syllabuses and methods; 6) teaching staff; 7) auxiliary services; 8) introduction of educational technology in schools, teaching of science in schools, etc. Some important educational statistics have been given.

507 LATAPI P: Education and social justice, an analysis of structures. Social Action 1972, 22(4), 327-37.

It is contended that education is subjected to manipulative pressures from three sources - the political and economic systems and cultural values. The present crisis in education, especially in the developing countries, is not merely the

consequence of a defective strategy or lack of resources. The incapacity of the education system not only to achieve its stated goals but also to create a society that is just, participative and even moderately egalitarian derives from more deeply rooted causes : production structures primarily and the values that sustain the power elite in the political and economic spheres.

508 MATHAI S: What is wrong with our education? Swarajya 1972, 17(17), 11, 12.

The drawbacks of the present educational system have been given as follows: 1) no positive steps have been taken to implement the recommendations of the Radhakrishnan Commission and the Kothari Commission; 2) a heavy cost has been involved in changing over to the higher secondary course and the three year degree course; however this change has not helped in raising the standards; 3) the tremendous increase in the number of teachers, students and colleges has produced fresh problems and made planning far less effective; 4) the frequent agitational approach of students has affected the academic standards and the general quality of life in universities and colleges; 5) the planning has not adequately examined the relationship between education and development in social, economic and technical terms; thus, the problem of adult literacy has not been solved; 6) lack of rapport between educational leadership and political leadership has resulted in want of political support to policies of education; 7) teachers and public men have not set standards of behaviour, honesty and truth, that contribute to personal and national greatness.

509 MATHIAS T A, DIWAKAR P, NEWBIGIN L, VERSTRAETEN A et al: Not without a compass - Jesuit Educational Association of India. Seminar on Christian education in India of today. Delhi, the Association, 1972. ix, 218p.

The seminar was held for six days which was attended by 100 persons from all parts of the country, educators and others, catholics and other fellow christians. This seminar was called primarily for a study of Jesuit institutions in India. Orientation papers, working documents and prayer services used at the seminar and the workshop conclusions arrived at are given in this volume.

510 NAIK J P: Education in free India. Indian Publisher and Bookseller 1972, 22(9), 268-73.

It has been pointed out that the educational facilities available in the country on the eve of independence were deficient at all stages. There were imbalances of growth between advanced social groups and the weaker sections, between urban and rural areas and between advanced States and backward States in the country. Thus, after independence the Central and State Governments were faced with three challenges viz. expansion of education, improvement of standards and radical transformation in the character of the educational system. During the past 25 years of independence, expansion of education, and an improvement of the quality of education through establishment of a number of standard institutions have been made possible. However, the more difficult tasks, such as, transformation of the educational system, provision of universal education for all children in the age-group of 6-14, the liquidation of mass illiteracy, and the raising of standards all round have yet to be achieved. Thus, planning and administrative skills, dedicated teachers, students and administrators and an atmosphere of idealism and contentment in the educational field, stable Government and sustained economic growth are necessary to accomplish the above tasks.

511 SHAMSUDDIN: Development of education in Madhya Pradesh (1947-72). Educational India 1972, 39(2), 41, 42, 47-9, 67, 68.

The development of education in MP for the period 1947-72 has been statistically assessed. During the twenty-five years of independence, there has been a notable development in educational facilities with regard to primary middle, secondary and higher education. It has been contended that at the primary stage the problems such as backwardness in some areas of the State, poor economic conditions, inadequate means of communication in rural areas have not been solved. Only 58% of the children of age group 6-11 attend schools and the conditions of buildings and equipment has been found unsatisfactory. Basic education and the development schemes have been neglected. At the secondary education stage, there has been a dearth of trained teachers and absence of proper buildings and equipment. Provision of funds is inadequate for higher education. A paucity of qualified teachers exists at this stage. The specific suggestions for improvement include: 1) expanding primary education particularly in rural areas; 2) ascribing importance to backward classes to the education of girls; 3) providing attractive primary school buildings and offering free school dress, midday meals etc. to primary children; 4) offering training facilities to primary and high school teachers; 5) encouraging basic education; 6) increasing the enrolments of students in secondary schools;

7) conducting extension service programmes; 8) increasing multipurpose schools; 9) expanding colleges offering science, technology and vocations; 10) supplying qualified teachers at the university level; 11) reorganising collegiate curriculum and modifying examination and evaluation system; and 12) expanding college libraries and laboratories.

512 SRIMAN NARAYAN: Basic reform in education. Times of India 11 October 1972, p.8, cols. 3-5; 12 October 1972, p. 8, cols. 7,8. 2400 words.

It is regretted that Basic Education has not received the importance it deserves. It is observed that the national developmental programmes could themselves serve as the base for correlation in Basic Education. The following suggestions are given: 1) adopting the 10+2+3 year educational pattern as recommended by the National Educational Policy Resolution (1968); 2) dividing the first 10 years into 7 years of basic stage and 3 years of postbasic stage; 3) giving training to students in many specialised courses of technical nature at the higher secondary stage; 4) giving more stress to technical and vocational courses at the university stage; 5) emphasising at all stages of education dignity of manual labour, sense of social awareness, and secular outlook; 6) encouraging part-time education and correspondence education. Introducing a common school system, fostering excellence in education, encouraging private enterprise, reforming examination system, delinking university degree with Government appointments, introducing moral and religious instruction at schools and colleges are among other suggestions made.

513 WANGOO M L: Growth and strides of education in Jammu and Kashmir. Educational India 1972, 39(2), 39, 40, 61, 62.

The following are the achievements of education during 25 years of independence in Jammu and Kashmir: 1) the literacy percentage was increased from 4.1% in 1931 to 18.3% in 1971; 2) the education being made free from primary to post-graduate level, the budget of education department has registered a rise from Rs.33,49,00 during 1947-48 to Rs.8,00,60,000 (1968-69); 3) the per capita cost of education in Kashmir State in 1966 has been Rs.13.8 while that of all India for the same period was Rs.12.1; 4) there has been considerable increase in the number of schools and colleges and in the enrolment for general education at all levels of school education; 5) teacher training colleges have also been expanded and provision has been made for conducting research and M. Ed. courses.

514 BHATTACHARYA S: Psychometrics and behavioural research. New Delhi, Sterling Publishers, 1972. 254p. 127 ref.

This treatise is designed to cover psychometric devices, statistical tools and experimental designs and combine them into a meaningful whole. It also examines some of the problems confronting a psychometrician or a researcher. The following are the chapter headings: 1) introduction; 2) nature of the problem and hypothesis formation and testing; 3) principles of testing; 4) psychophysical methods; 5) sociometry - its scope; 6) abilities and ability measurement; 7) intelligence; its nature and relation to the structure of human abilities - a critical review; 8) aptitude and its measurement; 9) personality and personality measurement; 10) tests and techniques of personality measurements and problems of psychometry; 11) problems of personality assessment: a review; 12) interest and interest measurement; 13) attitude and attitude measurement; 14) educational achievement; 15) introduction to statistics; 16) factor analysis as a technique - its limitations; 17) experimental designs; 18) approaches to the study and measurement of human characteristics - a critique.

515 CHAUBEY N P: Indian family structure and risk taking behaviour. Indian Journal of Psychology 1972, 47(3), 213-21. 19 ref.

The study aims at investigating the effect of type and size of family on risk-taking behaviour of village boys. The sample consisted of 75 boys of 10-15 years drawn from four villages of Allahabad district. Out of 75 boys 19 were from village J, 19 from village T, 20 from village B K and 17 from village M. Average age of the subjects was around 12 years and all had education between primary and high school. Ball and glass game was used as a tool of risk-taking. The results did not show any consistent effect of type and size of family, on the risk-taking behaviour of the rural children.

516 CHOPRA S L: Personal-social characteristics of sociometric stars and social isolates in Indian schools. Journal of Education and Psychology 1972, 30(2), 115-20.

The investigation was designed to study the relationship of social acceptability with parental occupation, family income, size of the family, sibling position, caste, personal-social adjustment, participation in cocurricular activities, academic achievement and

scores on verbal and non-verbal tests of intelligence. The sample consisted of 65 girls (15-16 years of age) studying in secondary schools. A sociometric test was administered and those having a percentile rank above 75 were regarded as sociometric stars, those having rank between 26 to 75 as average chosen, and those having rank 25 and less as social isolates. The relevant data were collected through a questionnaire. Progressive Matrices Test and Jalota's General Intelligence Test were administered to obtain verbal and nonverbal intelligence test scores. Marks in grade IX examinations were used as criterion for academic achievement. An adaptation of Bells Personality Inventory was used to know about personal-social adjustment of the students. The results indicated that socially more acceptable students had higher family income, the average size of their families was comparatively smaller, scored higher on both the tests of intelligence, showed superior academic performance, and had better adjustment on the whole. There was positive relationship between level of parental occupation and social acceptability and no consistent relationship between ordinal position among the siblings and social, acceptability. Those having 'low caste' origin tended to be socially less acceptable. There were no marked differences as regards participation in cocurricular activities among the sociometric stars, average chosen and social isolates.

517 GREWAL J S: Perception of learning environment in higher education - some cross-cultural comparisons. Journal of Education and Psychology 1972, 30(3), 204-9. 6 ref.

Gives an account of the learning environment as perceived by students, faculty, parents, educational administrators and public leaders belonging to two different cultures - American and Indian. Some of the differences have been highlighted.

518 GUPTA M P, SOHAL T S: Career aspirations of agricultural graduates. Indian Journal of Social Work 1972, 33(2), 93-101. 9 ref.

The data for the present study were collected from a sample of 175 students belonging to various colleges of the Panjab Agricultural University. The first two preferences of the undergraduates were 'Government service' followed by 'university service'. The position of those two topmost choices was reversed in the case of the postgraduates. The other preferences listed by the undergraduates were 'independent service', 'military service' 'undecided','private organizations', 'Department of Education', and 'executive service'. The major preferences of the post-graduates were 'private organization', Department of Education' and 'undecided'. The agriculture and

agricultural engineering students had high aspiration for 'government service', whereas home service graduates had shown high but equal aspiration for 'Department of Education' and to 'independent business'. The veterinary medicine graduates too had equally high aspiration both for 'government service' and 'military service'. Forestry was least preferred by all the categories of students.

519 JAWA S: Level of aspiration and achievement motivation. Psychological Studies 1972,, 17(2),65-9. 8 ref.

A sample of 57 undergraduate female students of Delhi University was administered a questionnaire to measure personal aspiration and Mukherjee's Sentence Completion Test to measure achievement motivation. The results indicated that achievement motivation was positively related to future aspirations. The high nAch and low nAch Ss differed with regard to past, present and future time dimensions in all the four variables of personal aspiration - contended life, educational achievement, sociability and economic conditions. In both the groups aspirations were consistently progressive from past to future except in contented life in the high nAch group where present position was reported to be better than expected in future.

530 KAUL L: Differences in some EPPS needs related with academic achievement among rural and urban adolescents. Education and Psychology Review 1971, 11(4), 11-14. 5 ref.

The study was undertaken to investigate how the personality needs operate among rural and urban adolescent boys and girls. Six hundred IX class students (age 13-16 years) were selected and grouped into 4 cells of 150 each - urban boys, urban girls, rural boys and rural girls. The Hindi adaptation of Edwards Personal Preference Schedule (Bhatnagar) was administered to all. The answer sheets were scored on the needs of achievement, dominance, endurance, aggression, affiliation and nurturance. The means and S. Ds were calculated separately for each group on each need. The overall significance of difference between means of six EPPS needs was calculated by one way analysis of variance. The following are the significant findings: 1) need achievement and need affiliation are equally dominant among rural and urban adolescent boys and girls; 2) urban boys are more dominant than rural and urban girls, and rural boys; 3) the urban boys are more aggressive than rural adolescent girls; 4) rural girls may be comparatively less dominant than urban girls and rural boys; 5) rural girls are more enduring, hardworking, nurturing and sympathetic than the urban boys and girls and rural boys.

521 KULSHRESTHA S P: Relationship between values and vocational interest of boys and girls of intermediate colleges. Quest in Education 1972, 9(4), 227-232. 14 ref.

A sample of 100 boys and 100 girls from the four Intermediate college of Agra City was selected on the basis of stratified random sampling technique. Hindi versions of the Revised, Modified and Adapted forms of Allport Vernon and Lindsey Study of values were employed to measure theoretical, economic, aesthetic, social, political and religious values of boys and girls. The Vocational Interest Record devised by the author was used to measure vocational interests of the subjects in the areas viz., literary, scientific, executive, commercial, constructive, artistic, agricultural, persuasive, social and household. The findings are: 1) a positive and a significant relationship exists between values and vocational interests; 2) boys who were good in social, theoretical, economic and religious values preferred vocations in social, scientific, economic and agricultural areas respectively; 3) girls who were good in economic, social, theoretical and aesthetic values expressed their maximum interest in commercial, social, and persuasive, scientific, constructive, and artistic vocational areas respectively; 4) both boys and girls who were good in theoretical, economic and political values had negative interest in professions of commercial, artistic and scientific interest areas respectively.

522 MALHAN N K, SEN A K: Learning curves as a function of stimulus materials. Psychological Studies 1972, 17(2), 38-41. 6 ref.

Thirty postgraduate students of Delhi University were given serial learning tasks using three different sets of words (meaningful, meaningless and emotional) as stimulus material. Three successive errorless reproductions of list in the serial order was taken as the criterion of learning. The average learning curves or the forward learning curves of the three sets were plotted and the analysis of variance made. Since the Ss variance was highly significant, the backward learning curves were also plotted. The forward learning curves focus on the average performance of the Ss, while the backward learning curve emphasises the individual component. Hence, the former gave the impression that group performance was poor in Set III. Actually, the group performance came down due to individual differences among the Ss as shown by the last phases in the backward learning curve and also supported by the statistical analysis of the data where greater s.d. was found for set III.

523 MATHUR S S, NIRMAL SINGH: Investigation into the attitudes towards studies of the recognized evening college students and the day scholars. Journal of Education and Psychology 1972, 30(3), 191-7. 5 ref.

It was hypothesized that there shall be a difference in the attitudes of the evening college students and day scholars towards their studies. The study was made on a random sample of 200 Panjab University students one hundred belonging to the final year B.A. class of the Evening College, Chandigarh and the other hundred studying in the Day colleges in Chandigarh. A specially prepared attitude questionnaire containing 85 statements was administered to the sample. The responses were scored and analysed. The results revealed a high degree of positive relationship between the attitudes of the two groups. Both the groups also marked the same statement as the most significant. Thus, the hypothesis was rejected. It has been concluded contrary to the teachers' opinion, the evening college students are also as good as the day scholars and that the former should be given more facilities for study.

524 NIJHAWAN H K: Anxiety in school children. New Delhi, Wiley Eastern, 1972. viii, 173p. 132 ref.

An enquiry is made into the Determinants of Anxiety in school children. Test Anxiety Scale for Children (TASC) and a General Anxiety Scale for Children (GASC) adapted from Sarason's Yale Scale were used. These tests were administered to 100 boys and 100 girls of three Government higher secondary schools for boys and for girls, and a senior model school. The schools are fairly representative of urban schools of Punjab and the students come from different socio-economic status groups. This study is divided into two parts. Part I deals with the research into anxiety in children based on age, sex, area, type of school and socio-economic status. The results are as follows. Anxiety about tests and examinations increases with age from the second grade of elementary school. Girls have more anxiety than boys and are readier to confess to it. Town children are more anxious about their success in studies and other pursuits than country children, private school children more than public (Government) school children. Lower class children seemed to be more anxious than upper class. Part II records research into the family antecedents of anxiety in children, not hereditary but environmental. The study was conducted on only 31 pairs of children, 31 of high anxiety and 31 of low anxiety : the mothers, more compliant than fathers, afforded information on their attitudes towards their children and thus threw light on the subject of research.

525 PASRICHA S, VERMA S K, MEHTA S, WIG N N: Relationship of parental education and IQ with IQ of malnourished children - a study in nature-nurture relationship. Indian Journal of Mental Retardation 1972, 5(2), 58-63. 10 ref.

Different degrees of malnutrition of 33 children admitted in the Nehru Hospital, Chandigarh were determined using Gomez's method. The IQ of children were determined using Gesell's Developmental Schedule, Seguin Form Board, Malin's Intelligence Scale for Indian children and Knox-Cube Test. Bhatia's Battery of Performance test was administered to determine the parental IQ. The educational level of parents was also recorded. It was found that the corrections of children's IQ with parental IQ and education were low in comparison to those of normal children. This supports the view that malnourishment and low parent-child IQ correlation are related.

526 PATHAK R D: Sociometric status and personality dimensions of adolescents. Psychological Studies 1972, 17(2), 30-6. 10 ref.

A purposive sample of 280 pupils studying in class IX at Jabalpur and Sagar was selected on the basis of a sociometric test administered as per Bronfenbrenner's fixed frame of reference. The four sociometric groups - populars, neglectees, rejectees and isolates were identified through the sociometric questionnaire in Hindi based on one prepared by the NCERT. There were 80 populars, 80 neglectees, 20 isolates and 80 rejectees. A personality Dimensions Scale which measures various dimensions of personality make up of pupils by teachers was administered to the sample. The obtained personality dimensions scores were analysed and compared. The populars were found to be superior to all the remaining groups. The neglectees were quite comparable to the rejectees and the isolates. But the rejectees were found to be inferior to isolates on various personality dimensions.

527 PATTED G M: Self-perception and success in teacher education course. Quest in Education 1972, 9(4), 181-6. 10 ref.

The hypothesis that there is no relationship between self-perception of student teachers and their success in teacher education course was sought to be tested. The sample consisted of 93 student-teachers who took their B. Ed. degree examination of Karnatak University in 1972. Each subject was asked to complete a seven point, twenty five item, bipolar adjective rating scale, rating himself. These scores constituted self-perception scores. The total marks

obtained at the final written examination, final practical examination and by internal assessment represented success of the subjects in B.Ed. course. Product moment correlation coefficient obtained between these two sets of scores being 0.612 was found to be significant. Therefore, the hypothesis set up was rejected. The findings thus, indicate the existence of a positive and significant relationship between self-perception of student teachers and their success in B.Ed. course.

528 RATH R, MOHANTY A K: Occupational stereotypes and preferences of a group of post-graduate students of Orissa. Indian Journal of Psychology 1972, 47(3), 197-211.

The study was made on a sample of 255 male and 65 female post-graduate students of Utkal University. The ten occupations selected were school teacher, engineer, magistrate, doctor, businessman, clerk, lawyer, politician, college teacher, and police officer. The Ss were administered a questionnaire with a list of 60 adjectives prepared after a pre-test to find out their occupational stereotypes and preferences. Attributes checked by at least 20% of either of the sex groups were included in the list of stereotypes. College teacher had the highest number of favourable attributes without a single unfavourable trait. Politician had the highest number of unfavourable traits. The favourable-unfavourable trait ratio also indicated the same. The total sample and also the two sex groups showed considerable agreement in stereotyping the occupational groups. The rank correlations between the two sets of scores of the male and female Ss were significant for all occupations except for lawyer and police officer. The rank correlation between the trait ratio and the occupational rank values for the total sample was also significant, showing that the nature of stereotypes can be an important factor in determining the occupational ranking.

529 SHARMA R A: Teaching aptitude of the teacher as a factor of classroom verbal behaviour. Journal of Educational Research and Extension 1973, 9(2), 107-14. 4 ref.

The study aims at analysing and exploring the teaching aptitude variable as a determinant for classroom behaviour. The sample consisted of 100 student teachers (64 males and 36 females) of Meerut University training colleges. The teaching aptitude test constructed and standardised by Dr. K.P. Pande was administered to the subjects. The class-room verbal behaviour of subjects was encoded during the practice teaching with the help of Flanders interaction technique. By a decoding procedure the data of behaviour components was represented on the matrix table. The result indicates that: 1) the indirect influence of the

teacher is significantly associated with the aptitude test scores; 2) the aptitude test scores are associated with pupil talks and 3) the sex factor is significant in the relationship of aptitude and teacher behaviour. It has been concluded that i) the method of studying teaching aptitude as factors could be a valuable technique and the test a valuable tool for estimating the significant aspect of teacher behaviour, ii) the aptitude variables viz., professional knowledge, vocabulary reasoning, general information and reading comprehension are significant for estimating teacher behaviour and iii) the aptitude score could not be valuable for estimating the direct influence of a teacher.

530 SINGH R P: Educational research in India today. Education Quarterly 1972, 24(1), 9-12.

The two types of agencies doing research in India are 1) Government or semigovernment agencies which undertake goal-directed, motivated and cooperative research; 2) the universities where the traditional type individual research is conducted. An analysis is made of the detailed summary of the work done both at M.Ed. and Ph.D levels in India as given in the Third Indian Year Book (1968) of the National Council of Educational Research and Training. The areas which have received scant attention of the researchers have been discussed. Complete overhauling of research, administration and organization of research facilities has been suggested. Communication of research results should be ensured so that they are utilised for improvement of education.

531 SINHA B P, SHARMA S K: Farmers, motivation and retention of knowledge gained from a farm telecast. Indian Journal of Psychology 1972, 47(3), 259-67. 26 ref.

The Delhi rural television project started Krishi Darshan programme for farmers in 1967. A telecast on cheap irrigation structures was selected for the study. The farmers of three villages who viewed the telecast (N=42) were interviewed. The farmers who got the information from those farmers who viewed the telecast were also interviewed. All the selected farmers had assured irrigation facilities at least for a part of their holdings. A teacher-made achievement test was administered to all respondents. Their n-Ach and change-proneness were also measured by semi-projective type pictures. The same achievement test was repeated after 15 days to find out the retention percentage. The results are: 1) seventy to 100% of the knowledge gained was retained by those who viewed the telecast, and 66.6% to 100% of the gained knowledge was retained by the secondary respondents; 2) the televiewers who were high on both- n-Ach and change-proneness retained the higher percentage of knowledge gained (90.7%) than those who were high on either n-Ach or change-proneness.

532 SINGH S C P: Personality characteristics of management students. Journal of Education and Psychology 1972, 30(3), 167-70. 7 ref.

The sample for the study consisted of 87 students of the Indian Institute of Management, Calcutta and 320 university students who joined their respective institutions in the same year. Their responses to the Eysencks Personality Inventory were obtained and also data regarding their academic qualifications, geographical background, and parental occupation gathered. Compared to other students, management students had higher social background, better academic qualifications and they came from all over India. The management students differed statistically from the others on neuroticism and extraversion scores. They had higher extraversion scores but lesser neuroticism scores. However, when compared with the data on successful business men collected by Eysenck (1967), the management students were found to have higher scores both on neuroticism and extraversion scales.

533 TRIVEDI R S, DESAI D B: Achievement motivation development in high school pupils through implementation of a specially designed curriculum. Journal of Education and Psychology 1972, 30(2), 88-98.

The experiment was designed to train teachers for n-Achievement development of pupils. A new curriculum for n-Achievement development in high school pupils was developed. Forty two teachers were trained for four days with regard to the implementation of the new curriculum on pupils. The entire experiment on pupils lasted for one term. The three tests administered to pupils as pretests as well as post-tests were: a) Achievement tests in science, English and geography; b) JIM scale developed by Prof. Frymier; c) TAT tests for n-Achievement scoring. The results have led to the following conclusions: 1) teachers could be trained in n-Ach development and as a result their n-Ach level could be raised; consequently the behaviour of the teachers manifest proneness to activities leading to job-satisfaction; 2) special syllabus prepared for pupils is very useful in n-Ach development in pupils; 3) because of the achievement motivation, the pupils gain in school performance, and they show behavioural change manifesting their goal setting and aspirational aspects; 4) perception of change in pupil behaviour acts as a feedback for the teachers.

534 VARMA M, SINHA D: Pattern of moral values in children. Psychological Studies 1972, 17(2), 42-50. 11 ref.

The study was made on a sample of 300 children belonging to vernacular (N=150) and missionary (N=150) schools. The Ss were divided into three age-groups - 6-7 years, 8-9 years and

10-11 years. An interview schedule consisting of 14 moral values was used to elicit the knowledge of these moral values of the Ss. The analysis of the results revealed that - 1) there was a substantial similarity in the patterning of moral values of the three age-groups; however, the children in the younger age-group had greater concern with the negative values and lesser concern with the positive and abstract values; 2) all the three age-groups ranked lowest the values such as ahimsa, sense of duty, purity and punya; 3) there was a slight variation in the patterning of boys and girls of the older age-group; greed and anger were frequent values for boys while they were least frequent values for girls; 4) there was no significant difference in the patterning of children belonging to missionary and vernacular schools.

535 WIG N N, NAGPAL R N: Why students fail? Indian Journal of Psychiatry 1972, 14(4), 381-8. 15 ref.

This is an investigation into the significance of emotional and psycho-social factors in determining the students academic performance at the university level. The sample consisted of 1180 Punjab University students in the faculties of Arts, Science and Commerce. Two structured questionnaires adequately covering the psycho-social life of the student were administered. After the examinations, students were grouped into 'passed' and 'failed' categories and the passed students were further subdivided into first, second and third divisioners. The general picture that emerged of the low achievers was that they were comparatively older, had poor academic background, had less educated parents and were complacent and not well-integrated emotionally.

536 WRAGG M: Teaching educational psychology in India. Journal of Education and Psychology 1972, 30(3), 158-66. 39 ref.

The present survey concerning 5 institutions training teachers for secondary schools was made between August and October 1967. The procedure adopted by the Joint Working Party of 1962 was followed. Questionnaire A designed to elicit information regarding the number of students, type of training provided, qualifications of the staff in psychology, topics covered and method used was completed by five principals. Questionnaire B eliciting additional information on the students themselves, their ages, background, motivation, views on educational psychology, co-education, text-books and education in general was completed by 432 students (219 men and 213 women). The ages of students ranged from 19 to 57, the majority being between 20 and 27. They were working for either B.Ed., B.A.Ed., B.Sc. Ed., B.tech.Ed., B.Com.Ed., or M.Ed. Educational psychology played an important part in all these courses.

About 25% to 30% of the whole course was devoted to educational psychology in four institutions. Some lecturers had good qualifications but some had no formal qualifications in psychology. Although all courses provided a reasonably satisfactory grounding in the main topics, standards varied. All syllabi made adequate provision for a study of the experimental approach and simple statistics. Some colleges were planning to build psychology laboratories. Too much time was spent on formal lecturing while independent studies, group discussions, audio-visual aids and experimental schools could be used more widely. Theories of learning and activity methods were outlined in courses but only rarely put into practice. The supply of good textbooks was inadequate. Foreign textbooks were being translated into regional languages and glossaries of technical terms prepared. Lack of money and the Indian trait of conservatism are the main problems in bringing about any reforms both in teacher training as a whole and the teaching of educational psychology in particular. With better pay, better facilities for research and a higher status, possibly more psychologists would consider teacher training as a worthwhile career.

EDUCATIONAL RESEARCH

537 AHLUWALIA S P: Educational Research in the Punjab since independence. Journal of Educational Research and Extension 1972, 9(2), 65-82. 4 ref.

The topic is discussed under the following five sections: 1) meaning of educational research; 2) historical background of educational research in the Punjab State; 3) obstacles in the development of educational research indicating information about the Ph.D. thesis and M.Ed. dissertations approved by the Punjab University; 4) priorities in the field of educational research in the State; and 5) summary of the prospects for the future of educational research in the State.

538 HIREGANGE T K: Qualitative improvement of secondary education through researches. Education Quarterly 1972, 24(1), 13-15.

Educational research and development are not usually inter-related with the result that research usually is presumed to be unreal, abstract and barren. The qualitative improvement of secondary education is possible if priority is accorded to research of classroom teaching. For this purpose, colleges of education and postgraduate departments of education of universities should conduct summer courses or weekend courses in elementary research methods for the working teachers. Elementary research methods should be included in

the syllabus of B.Ed. courses. Guidance for research workers, setting up of a proper agency to coordinate the researches in the field of secondary education, the free flow of finance for the purpose and the dissemination of research findings would go a long way in the qualitative improvement of secondary education.

EDUCATIONAL SOCIOLOGY

539 MARKER N S: Investigation into the extent of knowledge regarding sex and prevailing views regarding intermingling of adolescents, of teachers at secondary school level, in the City of Bombay. Journal of the Gujarat Research Society 1972, 34(1/133), 12-39.

The study is based on the responses of 320 teacher-trainees belonging to Hansraj College of Education, St. Xavier's Academy of Education, and PVDT Woman's College in both Marathi and Gujarati sections, to a questionnaire containing 21 questions concerning with elementary knowledge on sex and the social aspect of adolescent life. The respondents were classified as those holding Master's or Bachelor's Degree, those holding Arts or Science Degrees, and those who are single or married. Analysis of the data indicates that the subjects had limited knowledge regarding sex. However, with regard to the social aspect of adolescent life, the teachers did not believe in segregation of the sexes though a few disfavoured the socialization outside the school. The group as a whole was against any physical contact between adolescents, or dissemination of information on Family Planning methods. Majority of the teachers were in favour of the introduction of sex education in schools. It has been suggested that the teachers should be educated regarding facts concerning human reproduction and related matters in colleges of education. Sex education in secondary schools should be planned to develop right attitudes in pupils regarding sex.

EXAMINATION AND EVALUATION

540 AIYA S V C: School examination. Rajasthan Board Journal of Education 1972, 8(1, 2), 71-6.

A number of innovations that could be introduced by stages in school examination have been described. Restricting the scope of public examinations to find out if the objectives of a curriculum have been realized and conducting separate tests like aptitude or prediction tests and endurance tests for specific purposes, and grading pupils

into 5 groups on the basis of continuous evaluation throughout the school year are some important suggestions. It has been recommended that ultimately schools should be granted autonomous status so that they would be responsible for evaluating and grading the pupils.

541 DANDEKAR W N: Evaluation in schools. Poona, Shri Vidya Prakashan 1971. vi, 382p. 23 ref.

This book consists of 18 chapters covering different aspects of measurement and evaluation, followed by two appendices. The eighteen chapters are divided into two sections. First section - techniques of evaluation - contains discussion on: 1) the concept of evaluation; 2) objectives and their classification; 3) instructional objectives; 4) objectives of teacher education; 5) learning experiences; 6) unit plan; 7) unit test; 8) standardization of a test; 9) characteristics of measuring instruments; 10-12) tools of evaluation; 13) internal assessment. Second section - statistical methods - includes 14) frequency distribution; 15) measures of central tendency; 16) measures of variability; 17) measure of relationship; 18) the normal curve. The appendices give objective based test items in mathematics, English, geography, civics and science.

542 MISRA R C: Educational aspects of internal assessment. Rajasthan Board Journal of Education 1972, 8(1,2), 32-8.

A brief outline of the new comprehensive scheme of pupil evaluation encompassing various aspects of pupil growth launched by the Rajasthan Board of Secondary Education has been given. Unlike the earlier practice of assigning 10% marks to internal assessment in external examinations, a separate certificate is issued by the schools for internal assessment along with the Board's certificate. The educational implications of the different areas of pupil evaluation included in the scheme-personal and family background data, physical health data, intelligence test data, scholastic achievement data, data on personal and social qualities, and data on interests and attitudes, have been discussed. Maintaining constant touch with the guardians through progress reports, letters of complaint and commendations etc., and developing an integrated picture of the pupil are the main objectives of the scheme. The main emphasis is on the assessment of the pupils directed towards their educational development and not on assignment of grades and marks.

543 **MISRA S S, MISRA J B:** Introduction to the assessogram in evaluation of classroom learning. Indian Journal of Psychology 1972, 47(3), 269-81. 1 ref.

The progress of classroom learning is usually shown by norms, profiles, cumulative records, class analysis charts, report cards, etc. These methods have their limitations. There is an urgent need for the teacher to have an overall picture of the lesson-wise progress of the whole class as well as individual students for the sake of effective teaching. The technique of assessogram has been devised to achieve these ends and to remove all the discrepancies of the present success records in vogue. Evaluation is generally centred around the following points: a) individual score-marks obtained, grade, rank, next movement; b) progress of the class as a whole - number and percentage of passes and failures; c) proportional study in the grades; d) drops, absentees, and crossovers; e) comparative study of achievements after each lesson - i) of the individual, and ii) of the class; f) general trends of progress - i) static or constant, ii) dynamic; g) variability - i) high, ii) normal; and iii) low. Assessogram is a device in which all these composite factors of evaluation are assembled on a single sheet of paper. The basic data required for constructing an assessogram may be in the form of raw scores, percentages, standard scores, percentiles, norms, ranks or grades in the progress of classroom learning. The assessogram is represented diagramatically. The steps usually taken in the construction of an assessogram have been detailed.

544 **RASTOGI K G:** Betterment of learning through oral examinations. Rajasthan Board Journal of Education 1972, 8(1, 2), 28-31. 5 ref.

Oral examinations not only improve the academic learning of the child but also his personality. Some of the advantages regarding the first aspect are: 1) doubts are cleared as supplementary questions are possible; 2) the persons concerned are required to have a thorough command over the subject; 3) normally, oral communication does not need any introduction or conclusion, leaving time for more useful tasks; 4) the examiner can inquire as to why the candidate has given a particular answer in a particular way. The child's personality is developed in the following ways: 1) the child acquires the habit of listening to others and the ability to understand what they say; 2) the personality of the child revealed through his speech is helpful in the task of its development; 3) a feeling of self-confidence is developed in the child and it contributes to the efficacy of any mental task.

545 RAY S K: Examination reform - some suggestions. Hindusthan Standard 23 December 1972, p.6, cols. 3-8. 800 words.

Some of the suggestions are: 1) making teaching and evaluation continuous and simultaneous as far as practicable; 2) abolishing the "Pass or Fail" system and instead, giving detailed results in different subjects; 3) introducing five-point grading in the place of hundred and one point cardinal marking; 4) changing the pattern of question papers; 5) introducing an all-India graduate record examination to select the best among the graduates; 6) 6) decentralizing the administration of examinations; 7) reserving certain percentage of marks for internal assessment; 8) taking into account the intimate relationship between instructional objectives and evaluation objectives while drawing up any national educational plan.

546 SAMUEL K M, SOUNDARARAJA RAO T R: Views of teachers and pupils of high schools towards internal and external examinations at SSLC level. Journal of Educational Research and Extension 1972, 9(2), 115-19.

The sample for the study consisted of 250 teachers and 250 students (159 boys and 91 girls) studying in the final year of schools in Coimbatore District. The teachers were administered an attitude scale to measure their strength of attitude towards internal and external evaluation and a questionnaire eliciting information regarding their personal data, views on certain aspects of evaluation, the aims and objectives, paper setting and valuation of answer books. The questionnaire for the pupils was of the same pattern as that of the teachers' questionnaire. The results are as follows: 1) teachers generally have a neutral attitude towards the method of assessment; 2) the younger teachers seem to be more neutral than the old teachers who still favour external assessment; 3) the internal assessment scheme is not favoured because of the fear that dishonesty, vindictive feelings, personal bias, etc. will mar the whole scheme; 4) both teachers and students agree that such factors as character and conduct, regularity in attendance, participation in sports should all be taken into consideration in assessment. In keeping with these findings appropriate recommendations have been made to ensure speedy reform of examination system.

547 SRIVASTAVA H S: Trends in examination reform in India. NIE Journal 1972, 6(6), 1-7.

The comprehensive programme of examination reform launched by the Ministry of Education in 1958 has been further

developed by the National Council of Educational Research and Training. The following are the overall trends in examination reform which have been in vogue now for the last 10 years: 1) from arbitrariness to systematization, 2) from evaluation of merely academic achievement to the evaluation of pupil growth in both academic and non-academic areas, 3) from periodical evaluation to continuous evaluation, 4) from fewer techniques of evaluation to variety of techniques, 5) from limited uses of test results to wider uses of the same, 6) from measurement of achievement to improvement of achievement, 7) from the treatment of testing in seclusion to its treatment in relation to other elements of the curriculum. Trends in the reform of written examinations: a) from standardised traditional form to a more flexible purposeful form of question papers, b) from testing memorization to testing of other higher abilities, c) from limited coverage of the syllabus to its effective coverage, d) from the use of one form of questions to the use of a variety of forms, e) from fewer questions to a larger number of questions, f) from over-all options to limited options, g) from vague questions to specifically worded questions, h) from subjective-scoring to objective scoring. The trends in the reform of practical examinations: a) from the evaluation of the product of practicals to the evaluation of both the process and the product, b) from a limited coverage to a wider coverage of skills, c) from arbitary to a more valid and objective scoring. Trends in the reform of oral examinations a) from narrow to broad-based evaluation, b) from subject-based to expression-based evaluation, c) from arbitary to a more rational and scientific scoring.

EXTRA-CURRICULAR ACTIVITIES

548 **ASTHANA S:** Co-curricular activities - need of the hour. Educational Forum 1972, 17(3-4), 19-24.

The need for encouraging co-curricular activities in schools has been stressed. Suggestions include: 1) creating a suitable school setting in which pupils discharge their duties; 2) organising activity programmes suited to children's interest and experiences as an integral part of school curriculum; 3) correlating athletics, trips, excursions, cinema shows, dramatics etc. with curricular work; and 4) organising teacher's workshops to provide teachers a knowledge of the entire co-curricular programme. Proper supervision and administration and continuous evaluation of the co-curricular activities are essential. Adequate financial support should be ensured to carry on these activities.

540 Some suggested out-of-school science activities. School Science 1971, 9(2), 147-56.

The out of school activities have been discussed with particular reference to developing countries under the headings - science clubs, science competitions, science fairs, camps and science courses, popular science centres and museums. Institutionalization or establishment of governmental departments in developing countries has been favoured for coordinating the out of school science activities. The roles of the NCERT, and the Indian Association for Extracurricular Activities in promoting such science activities in the country have been described.

FINANCE

550 GUJARAT. EDUCATION AND LABOUR DEPARTMENT. Report of the committee on college finances 1971: Gandhinagar, the Department, 1971. v, 130p.

The Government of Gujarat constituted a committee under the chairmanship of a retired Judge, Shri N G Shelat to 1) examine the financial structure of the science colleges and some hard cases of Arts Colleges; 2) to suggest how this deficit can be met, a) by the management of colleges by effecting economies and otherwise; b) by the Government through appropriate modifications within the existing pattern of grant-in-aid and c) by raising fees; 3) to make any other recommendations germane to the main terms of reference. A brief report of the conclusions and recommendations in regard to the above terms has been given.

FORMS OF EDUCATION

551 Education by post. University News 1972, 10(12), 1-3.

Some of the recommendations made by the first national seminar on correspondence education are: 1) a research study of the present state of correspondence education in India be undertaken by the University Grants Commission; 2) a joint committee of the University Grants Commission and the Inter-university Board be made to advise the universities on the organization of correspondence education; 3) ensuring that there is no needless duplication of correspondence education programmes; 4) providing financial and other assistance to the needy students; 5) making provision for the supply of a certain

minimum number of basic textbooks, if and when post-graduate courses are started through correspondence; 6) setting up a wide network of study centres for students taking correspondence courses; 7) instituting a research and planning unit in every institute of correspondence education to ensure that the teachers cultivate special skills needed for lesson-writing.

552 Open university [Editorial]. Tribune 17 October 1972, p.4, cols. 1, 2. 600 words.

It has been opined that an open university with no need for a campus and connecting facilities should be a success in India where higher education is inaccessible to the poor. A good deal of flexibility and inter-disciplinary approach will attract students from all walks of life. Since the open universities will confer degrees also, there will be lesser demand for traditional universities. However, the problem of educated unemployment will be aggravated. Hence, it has been suggested that open universities be accompanied by increasing opportunities for employment.

GUIDANCE AND COUNSELLING

553 AMIN R: Guidance of adolescents, role of parents and teachers. Social Action 1972, 22(4), 346-60.

It is suggested that goal-guidance approach would be appropriate to the changes and challenges of the adolescent period. All the forces that influence the young on the road to maturity have to be considered. This will give a developmental picture of the totality of adolescent experience and of the dynamic relationship between events and the emerging personality of the adolescent. In doing so, it is pointed out, the role to be played by parents and teachers in guiding adolescents to function according to social expectations in the richest sense of the term will suggest itself. The following areas in which the parents and teachers have to play their roles have been discussed: 1) physical guidance, 2) mental guidance, 3) emotional guidance, 4) social guidance, 5) moral guidance.

554 PUNJAB. DIRECTORATE OF EMPLOYMENT, STATE VOCATIONAL GUIDANCE UNIT: Study to determine the nature and levels of vocational aspirations and vocational maturity of higher secondary school students. Chandigarh, the Directorate, 1971. 15p.

The present survey was designed with clear objective of determining the levels of vocational thinking of higher secondary school students in relation to their courses of studies. One thousand six hundred and forty one students of both sexes studying in the XI class in the year 1970-71 of various schools were subjected to this survey. The results of present experimental study have pointed out that 1) the students studying in XI class of higher secondary schools have not attained vocational maturity; 2) parents exert much influence in shaping the destinies of their children as compared to teachers; 3) socio-economic status has deep relationship with vocational aspiration and maturity; 4) students lack knowledge about the world of work and it calls for introducing systematic method of imparting guidance of world of work as the part of their curriculum. The following suggestions have been put forth: 1) students coming from low middle class families need to be supported and encouraged psychologically and economically in the shape of scholarships, financial assistance, so that their talents and abilities find proper expression; 2) teachers need to take more interest in the welfare of students; 3) parents need to be kept informed about vocational guidance, latest job opportunities, employment trend, etc; 4) world of work needs to be introduced in the educational curriculum; 5) students at higher secondary level need to be evaluated on the scientific basis as to inform them about their aptitude, level of intelligence, abilities etc; 6) guidance activities involving students, parents and teachers need to be evolved for the general welfare and betterment of student community.

555 VELAYUDHAN NAIR K: Psychological bases of vocational guidance. Meerut, Meenakshi Prakashan, 1972. vii, 221p.

The present study is an attempt at discussing the various aspects of developmental vocational guidance and the psychological principles underlying it. This study consists of three parts. The introductory chapter gives an account of the early beginnings of vocational guidance, the need for guidance and the development of the concepts of guidance through the various phases of its practice. The second chapter discusses the pre-scientific methods, such as astrology, phrenology, palmistry and graphology, that have been employed in the profession of vocational guidance. The third chapter traces the history of psychological testing and the various aspects of modern scientific guidance, theory and practice. Part II is concerned

with discussing the different aspects of developmental vocational guidance. Chapter 4 examines the developmental tasks of the individual including his vocational developmental tasks, and chapter 5, aspects of developmental vocational guidance from the home to the school and beyond. Chapter 6 discusses the special importance of group procedures in the developmental scheme of vocational guidance and chapter 7, the meaning and significance of eclectic testing in this guidance programme. Part III analyses the psychological bases of vocational guidance. Chapters 8, 9 and 10 are concerned with analysing the concepts of intelligence, aptitudes and interests and their importance in guidance programmes. Chapters 11 and 12 deal with the personality bases of vocational guidance. The psychometric and dynamic theories of personality which form the bases of current vocational guidance practices are examined and their limitations as far as developmental vocational guidance is concerned are discussed in these chapters. Chapter 13 proposes a personality model acceptable to the developmental vocational guidance.

HIGHER EDUCATION

550 **AHMEDNAGAR COLLEGE, AHMEDNAGAR** (Maharashtra): Profile of a college - a self-study of Ahmednagar College, Ahmednagar. Bombay, Nachiketa Publications,1972, xi, 247p. 30 ref.

The University Grants Commission in its Report on Standards of University Education, recommended certain steps to improve the quality of education in the colleges and universities. The first step recommended was self-study by institutions of higher learning to assess the quality of the work being done and suggest ways of improvement. This self-study project was undertaken during 1967-68. Following are the chapter headings: 1) self-study project; 2) two decades of Ahmednagar college; 3) purpose of the college; 4) academic evaluation of the college in the light of the UGC standards; 5) departmental reports; 6) the teaching staff; 7) the students; 8) students' progress: an assessment; 9) administration; 10) co-curricular programme; 11) extension services; 12) student residences and food services; 13) expansion of building structure; 14) main recommendations.

557 ALTBACH P G: University in transition - an Indian case study. Bombay, Sindhu Publications, 1972. vii, 136p. 92 ref.

This volume looks at the history of the University of Bombay, examines its administrative structure, analyzes its colleges and the relationship of the colleges to the university administration. Also discusses the impacts of political, economic and social forces on the educational standard in the expanding higher education in Indian universities in general The following are the contents: 1) the university context; 2) the colleges; 3) the colleges - some case studies; 4) politics of a large university; 5) conclusion.

558 GAUTAM G S: Crisis in the temples of learning. New Delhi, S. Chand & Co., 1972. vii, 136p.

Through a series of essays an investigation is made of the problems of university education in India. The phenomenon of recurring crises in the temples of learning is viewed as manifestations of the need for constant adjustments of the pattern of higher education to over-evolving complex social structure. The following are the chapter headings: 1) ideas and ideals of university; 2) origin of university education in India; 3) modern university education under the British rule; 4) efforts for change after independence; 5) Commissions - their reports and implementation; 6) problems facing the university; 7) university autonomy - a lofty ideal; 8) medium of instruction and examination; 9) teachers, the builders of the universities; 10) student unrest - an unprecedented phenomenon; 11) examinations - a threat to university education; 12) pathetic stories of university finances; 13) university administration-need for its streamlining.

559 MANSUKHANI G S: Crises in Indian universities. New Delhi, Oxford, 1972. xvi, 211p. 66 ref.

This is a collection of essays by several authors. The following are the topics discussed: 1) crisis in Indian universities; 2) university autonomy; 3) standards; 4) examination reform; 5) wastage in higher education; 6) open university project; 7) role of university in adult education; 8) university extension; 9) college and the community; 10) problems of affiliated colleges; 11) student violence; 12) student participation; 13) segregation of sexes in Indian universities; 14) women in Indian universities; 15) science education and research.

560 RAY A: Crisis in higher education. Hindusthan Standard 6 November 1972, p.4, cols. 2-5. 1700 words.

The indiscriminate growth of higher education has been the cause of all the maladies afflicting the academic world in West Bengal. No serious effort has been made to cater to the needs of rural and urban communities and devise studies appropriate to each of them. Rural education should have two broad objectives: i) equipping the villagers for the new tasks of citizenship and ii) feeding the developing needs of agriculture and rural industries. The major problem of Calcutta University is, it is pointed out, its huge size and all other ailments such as low standard, bureaucratisation of university administration, etc. flow from this. The following suggestions are made: 1) splitting up Calcutta city into three zones for academic purpose and link up each of them to one of the universities in the city; 2) framing a rational time-bound employment policy with a view to restricting higher education; 3) reorienting the syllabus, the style of teaching and examination in such a way as to inculcate among students analytical acumen; 4) promoting teachers on the basis of continuous academic performance; 5) making the prospective employers conduct their own examinations for employment purposes thus delinking university degree with employment.

561 SHAH A B: Liberate higher education. Hindustan Times 20 December 1972, p.9, cols. 3-6. 1100 words.

It is suggested that students should be made to pay by way of fees the entire cost of higher education. There should of course be provision for loan scholarships for deserving students who could repay the loan once they start earning. The following advantages will ensue from such a measure: 1) students will take education seriously; 2) vice-chancellors, principals and teachers will have to be more responsive to the needs and aspirations of the students; 3) universities can enjoy greater academic freedom and resist extraneous pressures.

HIGHER TECHNICAL AND VOCATIONAL EDUCATION

562 ANNUAL CONFERENCE OF THE INDIAN ASSOCIATION FOR THE ADVANCEMENT OF MEDICAL EDUCATION, 11TH, POONA, FEBRUARY 1972: / Proceedings /. Indian Journal of Medical Education 1972, 11(2-3), 77-229.

The conference discussed the following topics: 1) the national health plan and the concept of health team; 2) composition and education of the health team; 3) further education of the health team and its career planning; 4) interphase between the health team and the community; 5) research and evaluation in medical education.

563 BHATTACHARYA I C: Pharmacy graduates and pharmacology. Indian Journal of Pharmaceutical Education 1972, 6(2), 29, 30.

Pharmacy graduates having a background of drug-oriented education should be motivated for studies in pharmacology. Pharmacists are trained in theoretical and practical aspects of pharmacology and in ancillary subjects of physiology, anatomy, microbiology, biochemistry and pharmaceutical chemistry, whereas the students of other sciences are trained only to their professional requirements. Thus, a pharmacy graduate possesses a basic perspective for the study and practice of pharmacology. However, pharmacy graduates do not go for higher degree in pharmacology due to the following reasons: 1) pharmacy training in India is supervised by the All-India Council of Technical Education and schools of pharmacy are constituent parts of technological institutes; further, the association of pharmacy schools with medical institutions has been unsatisfactory resulting in neglect of biological aspects of the training; 2) in many schools the teaching of anatomy, physiology and pharmacology has been unsatisfactory as the subjects are taught by part-time medical practitioners; 3) the denial of admissions to pharmacy graduates into the departments of pharmacology of medical institutions has hindered the training of pharmacy graduates in pharmacology. Coordinated and correlated efforts in proper planning of pharmacology courses has been sought to improve the situation.

564 PRAHALAD C K: Measurement of training effectiveness, a quantitative approach. Economic and Political Weekly 1972, 7(48), M169-M178.

Training investments are hard to measure. To be able to reduce the problem complexity to a manageable level, a conceptual framework, which breaks down the training investment into 'Action Training' and 'Developmental Training' is suggested. Action Training by definition is easily related to immediate organizational needs and therefore the results can be quantified. Developmental Training returns are more difficult to identify and therefore a gross level measure on a periodic basis on the total real assets including human assets is suggested coupled with qualitative measures. While action training packages can be evaluated on a project-by-project basis using the previous value criterion, developmental training does not lend itself for such analysis. Investments in both - action and developmental training - are capitalised and amortised by extending the traditional accounting concepts.

565 SESHADRI C V: New Experiment in teaching. Hindu 29 November 1972, p.8, cols. 3-6. 2000 words.

The following are the main features of a new method of teaching adopted by the author in an engineering course: 1) it is a system of self-paced instruction; 2) it is a personalised system of instruction with no routine lectures; instead, class time is used to sit down with each student to explain aspects of the subject that are unfamiliar or difficult, special lectures are given at intervals for perspective or to review a group of facts or applications; 3) the student is assigned a series of tasks to master and he is tested with quizzes in which he satisfies the instructor; then he is allowed to proceed to the next task; 4) there is no common examination to test all students at the same time; the student is deemed to have completed the course once he has satisfied the instructor about his mastery of a predetermined body of knowledge in the subject; the grades in the course depend on successful completion of the course within the duration of the semester. The actual working of the new method has been detailed. Two survey questionnaires conducted among students, one during the course and another at the end of the course confirm that the method has been successful.

566 SINGH K P: Health education in teaching hospitals. NIHAE Bulletin 1972, 5(2), 122-6.

It is observed that teaching hospitals can be developed as model centres of health education for other hospitals to follow. Planning of health education includes careful coordination of various activities on all opportune times throughout the year with deliberate scheduling of events to be carried out in predetermined sequence. Opportune time for health education in the in-door department is during doctor's round, nurse's round, sponging, bath, etc. In outpatient area more emphasis should be laid in obstetrics and gynaecology and paediatrics clinics. There is an absolute necessity to organise health education on team concept. A preventive atmosphere should be built up in the hospital to make all hospital staff health education minded at all times. The material needed are a typewriter, duplicating machine, film projector, microphone, charts, maps, etc. The present hospital staff can be used as health educators after a short orientation training programme. The three stages of effective implementation of health education are: 1) identifying the needs and interests of the community for such education; the factors governing the diseases and health of an individual should be ascertained; his behaviour should be thoroughly observed with special emphasis on the social, economic, educational and emotional aspects; 2) the adequate implementation of various health education programmes; 3) the evaluation of the programme and its revision from time to time.

567 SRIVASTAVA G P: Pharmacy education in India. Indian Journal of Pharmaceutical Education 1972, 6(2), 2-25.

The history of pharmacy education in India has been traced and an overall review of pharmacy education in the U.K. and undergraduate pharmacy education in U.S.A. made. Discussing the present scheme of 4-year B. Pharm. education followed at B.H.U. Institute of Technology, it has been stated that the time ascribed for teaching and for practical work is inadequate. Thus, to cover the course content and to raise the standards of pharmacy education, the number of working days should be increased. Moreover, the teaching load in each class in terms of the number of papers and practicals as also the course contents being high, the number of papers and practicals should be reduced, the outmoded topics removed from the course content, and new topics introduced. The useful areas of knowledge such as biopharmaceutics, radio pharmacy, drug dealing, institutional (hospital) pharmacy, biological pharmacy, pharmaceutical engineering, biochemical pharmacology, pharmacotherapeutics, and advances in pharmacology should be introduced in postgraduate programmes of pharmacy education. This could be done by extending B.Pharm course to 5 years, the first 4 years containing common subjects and the fifth year offering electives. The tentative scheme proposed for 5 year undergraduate pharmacy education has been listed as follows: 1) in no class the number of subjects/sub-subjects (papers) be more than 7 in each academic session; 2) the course content of each paper be covered in 60 period lectures and 120 period practicals; 3) the duration of each lecture be 50 minutes; 4) the orthodox dispensing be included in the modified form of 'prescription pharmacy' so as to enable the graduates to get registered as pharmaceutists; 5) hygiene being a meagre topic, the Pharmacy Council of India be requested not to insist on this as an essential requirement for the approval of B. Pharm courses; 6) the study of electives in the final year should not be taken to replace the courses of study at the postgraduate level. An outline of 5-year B. Pharm course recommended for Indian Universities, the syllabi of courses adopted in London University B. Pharm and of courses in undergraduate pharmacy in the school of Pharmacy, State University of New York at Buffalo have been appended.

568 VENKATESWARAN S: Integrated undergraduate curriculum in electrical and electronics engineering. IEE-IERE Proceedings India 1972, 10(5), 146-52.

Students prossessing higher secondary certificate, intermediate certificate and B.Sc degree will all aspire to become engineers. At present there are separate 5 year, 4 year and 3 year engineering degree schemes. If all these schemes are properly integrated into a multiple entry engineering scheme, there will be more well-trained engineers. The outlines of such a multiple entry scheme

have been presented under science core, engineering core and electrical and electronics engineering cores. The additional advantage of this scheme is that say, a mechanical engineer can also become an electrical engineer by further attending fourth and fifth year classes in electrical engineering.

HISTORY

569 LEITNER G W: History of indigenous education in the Panjab since annexation and in 1882. Patiala, Punjab, Language Department, 1971. various pagination.

The annexation of Punjab took place in 1849. The history of indigenous education since 1849 to 1882 has been detailed. The book is a reprint of 1882 edition.

INSPECTION

570 MAHAJAN J M: School principals and training for supervision. NIE Journal 1972, 6(6), 15-17.

It is observed that supervision has not been properly understood and it is taken in the restricted sense of inspection. Far from being helpful, the visits by inspectors or education officers are a source of great anxiety and tension for teachers and principals. Supervision, to a large extent is the function of the head of the school. The principals of schools have to be properly equipped for it. There should be orientation programme for the serving principals. The training colleges should introduce a course in supervision and completion of such a course should be made compulsory for appointment of new principals. The course content should include the following theoretical knowledge 1) concept of supervision; 2) human relations in supervision; 3) academic leadership, including techniques of supervision; 4) the role of physical facilities in effective supervision; 5) adult psychology; 6) supervision in school subjects; 7) supervision in advanced countries; 8) history of supervision in India. Business management techniques, suitably modified can also be helpful in educational administration.

INSTRUCTIONAL MATERIAL AND AIDS

571 SAINI B K: Use of audio-visual materials in social education in Punjab. Indian Journal of Adult Education 1972, 33(10), 11-13.

The sample for the study consisted of 70 Social Education Workers and 300 students of Social Education. Questionnaire, Interview and observation methods were used to collect the necessary data. It was found that all the workers were making use of traditional instructional material, while only 3% of the workers were using radio and 2% films. They were not even aware of the sources from which they could obtain the audio-visual material and were not trained regarding the use of these aids. Both the workers and the students reported that though the latter had keen interest in the modern instructional aids, their availability was very scarce. It has been suggested that the workers should be trained in the use of audio-visual material, given such aids for use at the centres, involved in the preparation of these aids and consulted regarding the kind and timing of radio lessons.

LITERACY

572 KUNZRU H N: Illiteracy and education. Hitavada, Sunday Magazine 1 October 1972, P.A., cols. 7, 8, p.c, cols. 1, 2. 1250 words.

According to 1971 census, the percentage of literacy in India is only 29.3%. Illiteracy is highest in the age group of 15 to 44 years and it is increasing. It is imperative to focus the maximum education effort at this age group and the education has to be job-oriented, and productive. 'Apart-from-school' education recommended by the Education Commission (1964-66) will be the most suitable programme in this regard. Illiteracy is widespread in the rural areas, the hill areas and the economically backward areas, and among women. A practical need-oriented adult education effort is needed for this.

MORAL EDUCATION

573 KEDAR NATH: Guidelines for moral education in schools. Conbosco News and Views 1972, 8(3), 11-13.

Building up character is an essential aim of education. Moral education is necessary for this and it has to be based upon universally accepted code of morality embodying ethical and socio

social values. Truthfulness, honesty, social justice, trustworthiness, sympathy, kindness, sense of duty, punctuality, obedience, adherence to law, cooperativeness, patriotism, etc. have to be inculcated in various degrees. A well-chalked out syllabus commensurate with the age and stage of development of the children is necessary. Story books and books of adventure, lives of greatmen and readings from religious books etc. have a place in this behalf. The teaching of various subjects of study afford ample opportunities for imparting moral values to children. Moral instruction can also be activity-based such as scouting, co-curricular and extracurricular activities.

574 **SRINIWASA RAGHAVAN A V:** Distractions outside the school and how to counteract them. Educational Forum 1972, 17(3-4), 6-13.

The common distractions to teenagers outside the school are the theatre, unhealthy printed literature, the political platform, the mania for town life and the narrow materialistic bent of mind that the society betrays. Suggested remedies include, 1) giving full scope for the display of pupils' histrionic talents while teaching lessons; 2) making school magazine interesting to pupils; 3) seeking the cooperation of parent-teacher association to tackle the distraction of the political platform; 4) instilling in pupils a love for village life by organising suitable project programmes and organising moral lessons and programmes of meditation, discourses on teachings of Buddha and Ramakrishna, lectures on the Gita, the Kural, the Quran, and the Bible in schools to bring about emotional refinement in pupils.

POLICY AND PLANNING

575 **ABRAHAM A S:** Model schools plan - nurturing a new elite. Times of India 19 December 1972, p. 8, cols. 3-5. 1200 words.

The draft of the Fifth Five-year Plan for education does not specify how the proposed model schools are going to be superior and better than the regular schools. While some suggestions are vague, others do not appear to be part of an overall pattern of educational reconstruction worked out in detail. A huge expenditure has been proposed for setting up these schools. However, such expenditure cannot be justified in the absence of any specific details of the kind of education they intend to provide. The model schools should be free from the shackles of elitism plaguing the present school system, and should be marked out from the other schools by their superior educational content.

576 ADISESHIAH M S: Education, futility of aggregative approach. Economic and Political Weekly 1972, 7(42), 2105, 2106.

Discusses the meeting of the Central Advisory Board of Education (CABE) convened to consider the draft Fifth Plan proposals of the Education Ministry. While detailing the CABE's strategy for the Fifth Plan, the following observations are made: 1) the CABE has not paid attention to the problems of student violence and teacher strikes; 2) the CABE should have considered the problem of increasing unemployment and unemployability of the educated; 3) the proposed plan outlay of Rs.3200 crores is unrealistically high. It is pointed out that the work-based curriculum in the out of school education should be built not around some artificial work situations created in the school but around the actual work done by girls at home and boys in the field, factory or office. In matters like education which is basically a local affair, all-India planning meetings should be concerned with estabblishing strategies and coordination of local plans if such meetings are not to get lost in futility of aggregative and macro level generalisations.

577 AHUJA Y L: Some statistical techniques in manpower planning. Manpower Journal 1972, 8(2), 67-87.

The following statistical techniques that are used in manpower planning have been discussed: 1) correlation and regression; 2) probability and stochastic processes; 3) linear programming; 4) sampling. All these approaches call for adequate data on manpower. The data must be sufficient, accurate and reliable.

578 De REBELLO D M: Medical and health manpower in Nizamabad, Cuddapah and Nellore Districts of Andhra Pradesh, za a comparative picture. Manpower Journal 1972, 8(2), 53-66.

The report on the medical and health manpower in respect of the three districts indicates the position with regard to each category of personnel, their availability to the population, rural and urban separately, the sex and age distribution, qualifications, native place etc. The report has led to the conclusion that taking together all doctors practising various systems of medicine there is one doctor for every 3000 to 3500 of the population. Taking only allopathic doctors into consideration, their availability is 1:8000 in Cuddapah and Nellore and 1:10000 in Nizamabad. The demand for allopathic doctors is more. There is need for increasing the supply of allopathic doctors and for ensuring proper distribution of doctors in rural areas. There is also need for improving the efficiency of the practitioners of indigenous systems. The development of medical and health manpower should be undertaken after intensive study of the position in each district.

579 GUPTA M L: Educated unemployed in India. Publishers' Monthly 1972, 14(11), 8-11.

Analysing the problem of educated unemployment in India, it has been stated that the imbalance of manpower to education, the slow growth rate of Indian economy, rapid increase in educational facilities, lack of adequate finance needed to meet the vast expenditure and undue emphasis on general education have been the main causes of the problem. However, the following steps have already been taken to meet the situation: 1) the central ministries are being asked by the Planning Commission to prepare annual plans for 1972-73 with regard to the need for creating additional employment in rural areas for the educated such as employment of teachers in primary schools, conducting rural engineering surveys and setting up of agro-service centre, and financial assistance for technical graduates to set up small scale industries; 2) the nationalised banks are assisting educated persons in finding self-employment; 3) UNESCO has provided economic assistance and expert advice for several schemes. Further, supplementing general education with vocational education at all levels of school education, introducing work experience in the educational system, providing special incentives to educated farmers and making higher education selective in nature have been suggested to solve the problem of educated unemployed.

580 MYSORE STATE SEMINAR ON EDUCATIONAL PLANNING AND ADMINISTRATION, BANGALORE NOVEMBER 1960. Report. Asian Institute of Educational Planning and Administration, New Delhi, 1970. 58p.

The seminar covered the following subjects: a) Fourth Five-Year Plan of education in Mysore; b) pattern and problems of educational administration in Mysore; c) district educational plan and institutional planning; d) community participation and school improvement programmes; e) qualitative improvement of education not involving much of financial outlay. A number of recommendations for the improvement of educational administration in Mysore have been incorporated in the report.

581 New targets in draft plan for education. Patriot 3 October 1972, p.2, cols. 3-6; p.9, col. 5. 1400 words.

Some of the proposals in the draft plan for the Fifth Five-Year Plan are: 1) achievement of universal free primary and middle school education on a priority basis; 2) improvement of standard by setting up model schools and upgrading at least 10% of the schools to optimum levels; 3) introduction of a multiple entry system seeking to make entry possible at the ages of 6, 11, and 14; 4) adoption of a large programme of part-time education for

working children; 5) development of universities and university centres; 6) institution of multiple colleges of a given standard in newly established university centres; 7) expansion of centres of advanced studies; 8) setting up of autonomous colleges. The need for guarding the proposed institutions from developing into a new type of privileged class has been underlined.

582 Opinions of Indian returnees from abroad - an interim report. Technical Manpower 1972, 15(10), 1-4.

The present survey by the Division for Scientific and Technical Personnel, CSIR included those returnees who obtained a degree, diploma or a professional certificate during 1959 or later from developed countries (U.S.A., U.K., Canada, Germany and France) in any branch of study excepting medical sciences, and returned to India during 1960 or later. Even those who had 2 years of higher education without obtaining a foreign degree, etc. were included. About 600 persons, most of them possessing high educational qualifications and employed in educational and research institutions responded to the survey questionnaire expressing their opinions and feelings on return, after they had been exposed to overseas environments. Some of the important findings are: 1) only 4% of the returnees regretted their return, about 46% felt happy to have returned; 2) most of the respondents (about 90%) felt that the working facilities and educational systems were better abroad; on the other hand, 65% felt that home country was better in respect of one's place in the society; 3) two-fifths of the respondents mentioned the attachment with parents and family as the most important reason to return; patriotism was mentioned as the most important reason by fifth of the scientists, who were the largest group; 4) about two-thirds preferred India to live and work permanently while one-eighth preferred a developed country.

583 PRAKI M K: Educational planning in India - implications of population trends. New Delhi, Sterling Publishers 1972. xv, 284p.

This book, a product of the author's doctoral work at the university of Chicago, deals with three major aspects: 1) the effect of differential growth of population, urbanization and industrialization on the growth of literacy and educational facilities; 2) population projections and projections of school enrolment under different assumptions of population growth and different models of enrolment growth, and analysis of their implications for educational planning and liquidation of illiteracy; 3) and development of tables of school life for India and the State of Madras (Tamil Nadu) and Punjab.

584 SANTHANAM K: Education in the Fifth Plan. Swarajya 1972, 17(14), 1, 2.

The Union Education Ministry's proposals for Fifth Plan involving an outlay of Rs.3200 crores have been reviewed and the following suggestions offered: 1) effecting no structural change in the secondary education and instead, devoting all available money and effort to better training and living conditions for teachers, school buildings, libraries and laboratories and hostels; 2) giving up the proposed project for setting up a model secondary school in every district and a model primary school in every community development block, as it would be a wasteful diversion of available resources; 3) improving the equipment of colleges and technological institutions; 4) restricting admission to higher educational institutions; 5) ensuring that professors and lecturers are of the highest possible qualifications; 6) discontinuing the special privileges so far given to the Scheduled Castes and Tribes and considering merit only as the sole criterion; 7) providing generous stipends to all intelligent but poor students; 8) giving priority to universal compulsory education of children upto the age of 14 and if possible, recruiting only graduates as teachers at this stage; 9) making science and mathematics as compulsory subjects even upto the end of secondary stage; 10) encouraging non-official agencies to participate in all stages of education; 11) enforcing no uniformity regarding the percentage of students to be enrolled in the Government and private institutions; 12) tackling effectively the problem of language and use of mass media.

PREPRIMARY EDUCATION

585 KANSAL M R: Origin and development of the education of infants. NIE Journal 1972, 6(6), 8-10.

The history of infant education has been briefly traced. It is observed that India has to cover a long way in the field of preprimary education. The report of the Central Advisory Board of Education on the post-war educational development in India (1944) was the first to emphasise the significance of preprimary education and recommended adequate provision for it. Since then pre-primary education has been making steady progress and in 1965-66, the number of pre-primary schools rose to 3500 and expenditure was 0.2% of the total educational expenditure. The Education Commission (1964-66) made an estimate that if 50% children of the age-group 3-5 years are brought under the purview of pre-primary education, the enrolment in 1975-76 will be about 500,000 and in 1985-86 about 2.4 million. The expenditure will be 1.5% in 1975-76 and 1.2% in 1985-86 of the total educational expenditure. At present these are mainly urban institutions. In rural areas excellent work has been done by the Central Social Welfare Board and the Community Development Administration which taken together have 2000 'balwadies' (child care centres) with a total enrolment of 600,000.

586 RAJALAKSHMI MURALIDHARAN: Pre-school education. New Delhi, National Council of Educational Research and Training, 1971. 10p.

The following ways and means have been proposed for expansion of pre-school education facilities: 1) training local women through short term courses to run the preschools wherever fully trained teachers are not available; 2) devising play materials out of locally available things; 3) enlisting the support of the community; 4) using the services of the primary school teachers, particularly those of class I; 5) conducting short term summer courses in pre-school education particularly for children who are to enter class I in the coming year; 6) making use of the mass media particularly TV; 7) setting up mobile nursery schools in areas where trained teachers are not easily available.

587 SATHYAVATHI K, RAGHAVA G, TIRUMALAMMA B K, MURTHY H N: Opinion survey of teachers of nursery school regarding pre-school education. Journal of Education and Psychology 1972, 30(2), 110-14.

The opinions and experiences of 39 nursery school teachers have been gathered on the following aspects of pre-school education: a) punctuality of children, b) teacher-pupil ratio, c) working hours of the school, d) necessity to meet parents, e) teachers' advices to parents, f) competency of teachers to advise parents, g) teacher-parent meeting, h) home visit by teacher, i) difficulties felt by teachers.

PRIMARY EDUCATION

588 SINGARAVELU V K, FEROZE M: Difficulties experienced by the elementary school teachers in completing the fifth standard syllabus. Journal of Educational Research and Extension 1972, 9(2), 120-4.

Data for the study were collected by administering a) a specially constructed Teachers' Problem checklist containing 70 problems to 26 men and 34 women teachers teaching 5th Standard students and b) a questionnaire on the school conditions and other problems related to schools, to 30 headmasters of Upper Primary schools. The main findings are as follow: 1) men and women teachers showed no difference with respect to number of problems faced by them; 2) the reading difficulty of pupils in Tamil, difficulty in

correlating the teaching of English reader with the handbook and workbook, difficulty in teaching mathematics because of drill in computation skills at lower classes, lack of guide books and reference books in Geography and History were the main academic problems felt by teachers; 4) lack of cooperative spirit in parents, improper partitions in school buildings, and irregular attendance of pupils were the other causes perceived by teachers for their inability to complete portions of the syllabus on time; 5) in the opinion of headmasters, irregular attendance of pupils, the delay in the purchase of text books by the pupils, were the chief causes of poor teaching; and 6) headmasters of rural areas opined that the work of family planning propaganda by teachers affected teaching and completion of syllabus. Provision of simple reading practice to pupils using push card techniques, suitable training to teachers in the use of English Readers, handbooks and work books, remedial teaching to overcome inadequacy of computational skills among pupils, adequate supply of history and geography reference, resource and guide books, revitalization of parent-teacher associations have been suggested to remedy the situation.

READING

589 INDIA. MINISTRY OF EDUCATION AND SOCIAL WELFARE: Reading habits of primary school children in India - a sample survey. New Delhi, the Ministry, 1972. 19p.

This survey was conducted by the Ministry in 88 schools covering 28,495 (24,580 boys and 4,915 girls) students of primary, middle and secondary classes from all over India. This survey goes to show lack of requisite facilities for the growth of reading habits amongst the school children. The following measures have been recommended by the school authorities for the promotion of reading habits amongst their children: 1) provision of a) library/reading room, b) adequate grant or books for general reading, c) modern library books with pictures and illustrations, d) a period for library reading in school time-table, e) journals, magazines etc. free of cost by the Government or the Board; 2) raising of annual fee for purchase of general books from students or raising of donations from the people; 3) keeping the library open after school hours.

590 PATEL B V: Reading comprehension in English of S.S.C.E. pupils and socio-economic status. Journal of the Gujarat Research Society 1972, 34(1/133), 8-11.

The study aims at testing the hypothesis that there would be no difference in the performance at reading comprehension in English between pupils coming from different strata of society. Data regarding the reading comprehension in English of S.S.C.E. pupils of Gujarat schools were collected by using a reading comprehension test in English standardised by the author. Four hundred and forty eight pupils were then divided into upper, middle and lower strata of socio-economic groups on the basis of the data collected through questionnaires regarding the socio-economic status of the parents of pupils. The sample included boys and girls from both urban and rural areas. Analysis and interpretation of data revealed that pupils belonging to upper class socio-economic strata were good at reading comprehension than pupils of both middle and lower class of the socio-economic status. Similarly, pupils of middle class socio-economic group were better at reading comprehension than pupils of lower socio-economic group.

SCHOOL FORMS

591 SINGH R P: Indian Public school. New Delhi, Sterling Publishers, 1972. 140p.

The book is divided into ten chapters and contains ten appendices. The first chapter gives a historical retrospect of the public schools in India. In concept, design and purpose, the public schools in India did not resemble their English counterparts. The second chapter 'who goes to a public school' substantiates the facts about the limited clientele of the Indian public schools. In chapter three entitled 'the argument', an analysis is made of the various factors which supposedly provide the ground for the continuation of the public schools. Chapter four gives the evolution of public schools in England. The next chapter gives information about the actual working of a public school. The last chapter 'Balance sheet' emphasises that the existence of public schools cannot be justified by the arguments of leadership, national integration, discipline, etc. in the new context of India's development.

SOCIAL SCIENCE RESEARCH

592 INDIAN COUNCIL OF SOCIAL SCIENCE RESEARCH, NEW DELHI: Survey of research in geography. Bombay, Popular Prakashan, 1972. xxiv, 397p.

This is the second volume published by the Council in the series of compilation of research survey reports in all social sciences. This survey covers broadly the period upto the end of 1969 and includes most of the research work published by Indian social scientists on India. Where necessary references have also been made to outstanding research work on India done by non-Indian scholars as well. In this survey, the entire field of geography has been divided into nine divisions: 1) economic geography; 2) geography and planning; 3) historical geography; 4) human geography; 5) political geography; 6) regional geography; 7) methods in geographic research; 8) training in research methodology; 9) summary and recommendations for future projects. These are further sub-divided into 25 chapters each covering a sub-field of geography. Each chapter includes a select bibliography. Geographical index, subject index and name index are given at the end. As a first step, this survey has prepared the ground for debate on choosing new projects for investigation and also indirectly indicates the senior personnel available for guiding the research.

SPECIAL EDUCATION

593 NAIK J P: Education of the scheduled castes (1965-66). New Delhi, Indian Council of Social Science Research, 1972. 40p.

Information has been compiled about enrolment of scheduled castes in all types of educational institutions in India as it stood in 1960-61 and 1965-66 in order to examine the prospects of development of education among scheduled castes.

594 NAIK J P: Education of the scheduled tribes (1965-66). New Delhi, Indian Council of Social Science Research, 1972. 40p.

Information has been compiled about enrolment of scheduled tribes in all types of educational institutions in India as it stood in 1960-61 and 1965-66 in order to examine the prospects of development of education among scheduled tribes.

595 UPMANYU V V: Gifted child - an asset to society. Quest in Education 1972, 9(4), 198.

The need for giving due recognition to gifted children in schools has been emphasised. Children are categorised as potentially gifted when their performances are consistently remarkable and their main characteristics being ability to 1) generalise more easily; 2) recognise relationship; 3) comprehend meanings and 4) think logically. The teachers should possess a knowledge of correct methods of observation and of objective, standardised, psychological tests for identifying the gifted children in the class-room. The children should be helped to develop their potentialities, recognise their strength and weaknesses, and the educational set-up should create a suitable atmosphere of free expression in the classroom. The educational system should provide three kinds of adjustment viz. acceleration, segregation and enrichment to the gifted children. Thus, supplementary assignments, project and laboratory work, leisure-time activities, open-air sessions etc. should be provided for the gifted. The other suggestions for the education of the gifted include: 1) making arrangements in schools for testing children; 2) appointing trained persons in schools for handling these tests; 3) providing adequate libraries in schools; 4) offering help in the selection of books for extra reading; 5) giving financial help to the needy among the gifted and 6) providing hostel facilities to those who have no good home environment.

STANDARD

596 AGGARWAL L N: Raising educational standards. Education Quarterly 1972, 24(1), 33-5, 38.

Educational standard is visualised at four levels: 1) projected, 2) expected, 3) reflected, 4) accomplished. Accomplished standard is that of students' achievement by examination and other evaluation tools. The norm of examination, question papers and other evaluation techniques indicate reflected standard. The specific educational goals, the subject-content, textbooks and teaching material, mirror the expected standard. The educational aims and the level of achievement of students expected to be achieved at a future date constitute the projected standard. The accomplished standard is usually lower than the reflected standard which in its turn is itself lower than the expected standard. The expected standard is lower than the projected standard. To reduce the gap between the various levels of standards, the examining bodies should undertake the following measures: 1) curriculum and evaluation reform can be undertaken; non-scholastic areas also should be included for evaluation; 2) teacher orientation and in-service programmes should be undertaken

through seminars, workshops, correspondence courses etc.; 3) textbooks, teachers' guides and handbooks, etc. should be improved; 4) research studies such as error analysis, preparation of diagnostic tests etc. should be undertaken.

STATISTICS

597 ANDERSON C A: Organizing Indian educational statistics for action. Economic and Political Weekly 1972, 7(45), 2250-2.

By capable mobilisation of appropriate educational data, building upon its historic base in nationwide statistics on social topics, India can lead the way to some decisive answers about the part that education plays or can play in development: economic, political, cultural community or social. It is pointed out that India has extensive data. In some instances, however, only fresh tabulations of existing data will open a treasury of precious information. The techniques for collecting information on all subjects are there, and there are the sampling frameworks for organising the collection of data on many aspects of education. What is lacking is the spare manpower who possess both the interest and the experience or instruction in processing educational data beyond the first step of tabulation.

STUDENT INDISCIPLINE

598 INSTITUTE ON STUDENT JUDICIARY AND STUDENT INDISCIPLINE, UDAIPUR, NOVEMBER 1971: Report. New Delhi, the United States Educational Foundation in India, 1971. 46p.

The Institute was planned to help the hostel wardens and proctors so as to increase their competence in working with students who were a source of potential or actual trouble on the campus. The following are the contents of the report: 1) background and plan of the Institute; 2) objectives; 3) programme of the Institute; 4) participants' evaluation of the Institute; 5) outcome of the Institute. The appendices include a) causes of student indiscipline, b) plans made by the participants for action when they returned to their own universities after the Institute, c) a perspective report on student participation in university affairs.

599 NAYAR K: Political parties and campus violence. Statesman 12 December 1972, p.6, cols. 4-6. 1200 words.

It is welcome that the Education Ministry has now taken up the problem of student unrest. Among the causes of student unrest and violence are i) the poor socio-economic background of students; ii) bleak prospects of employment after the completion of educational courses, and iii) irrelevance of educational courses. All political parties contribute to the deepening of student crises. It would be better if political parties adopt a code of ethics to stay away from campuses and their problems. More than introduction of vocational or job-oriented courses it is necessary to ensure an atmosphere where creative impulses are preserved and encouraged and where a student does not become embittered because there is lack of appreciation for the object of his endeavour. Participation of students in university affairs even at the time of admission may help and so may appointment of the right type of vice-chancellors. Violence in the campus must be left to the care of police and other authorities so that law and order are taken care of from the start. The prerequisite for real peace is recognition of the academic campus as a centre of learning and also as a place where tolerance, respect for each other's views, and goodwill towards all are appreciated.

600 PRADHAN M: How to develop the standard of discipline in secondary schools. Educational Forum 1972, 17(3-4), 49-64.

The general causes of indicipline in schools have been discussed and the following suggestions made for developing the standard of discipline: 1) appointing teachers of high moral conduct in schools; 2) appointing full time librarians in schools to help pupils choose suitable books that would guide their minds towards discipline and honesty; 3) engaging pupils in sports and science club activities; 4) maintaining a close parent-teacher relationship; 5) organising excursions, picnics, hikings etc.; 6) allowing pupils to take part in school committees for acquainting them with democratic principles; 7) including religious scriptures in school text-books; and 8) organising moral instruction in secodary schools.

601 SANTHANAM K: Students and politics. Swarajya 1972, 17(18), 1, 2.

Active participation in politics by students and indiscipline among them are regretted. Students should of course be acquainted with the fundamental problems of politics such as values, principles, institutions, policies and procedures of all the political systems prevailing in the world. Frequent closure of educational institutions results in the lowering of educational standard. The following suggestions are given: 1) organization of party factions in schools and colleges should be prohibited; 2) students belonging to the NCC

or a similar force should be organized in every school and college to maintain discipline and prevent any kind of intimidation; 3) the managements should refuse to close the institutions while student indiscipline is on, for, the majority of students are peace-loving and want to pursue their studies unhamperod; 4) while teachers may not be prohibited from participating in party politics, they should be sternly forbidden to introduce it in the school or college.

602 TANKHA M N: Law and order in schools. Hindustan Times 12 November 1972, p.7, cols. 7, 8. 1700 words.

Punitive approach to discipline was adopted in the past, and the teacher never made any effort to investigate the causes of the pupils' misbehaviour. The entire attitude to discipline was determined by ethical and political ideas of that time. In a democratic society there is no place for autocratic behaviour of the teacher. In schools which have dropped the dictatorial approach, it has been found that the children became more responsive to leadership and demonstrated self-direction and self-discipline. The various indiscipline situations, the different acts of indiscipline committed by different age-groups, the different causes for them have been discussed. An active disciplinary programme in a school should place more emphasis on constructive rather than corrective methods. Organizing extra and co-curricular activities, encouraging student participation, conducting daily morning assembly, grooming senior boys to be examples for younger ones are the various activities suggested.

603 TUKOL T K: Students' unrest in India. Bangalore, Indian Institute of World Culture, 1972. 19p.

After analysing causes of students' unrest in India, the following remedies have been proposed: 1) the leaders of thought unconnected with politics should try to purify public life by reviving the ideals of self sacrifice and integrity; 2) moral instruction should form part of the curricula in schools and colleges so that respect for scholarship, hard work and integrity can be part of their philosophy of life; 3) parents should be made conscious of their duty towards their children whether in schools or in colleges; 4) association of young men should be organised in order to evoke a sense of unity or brotherhood amongst the students; 5) the young student should be taught to make the best use of leisure hours; 6) the students should be involved in national service. They should be made aware of common features of Indian culture and civilization.

604 MARKER N S: Comparative study of microteaching and conventional practice teaching of pupil teachers of geography method. Journal of the Gujarat Research Society 1972, 34(1/133), 59-83.

Ten student teachers taking geography method were divided into two groups of 5 each, one, experimental group and the other, the control group. It was ensured that the two groups were homogeneous. Microteaching was applied to the experimental group for 50% of the teaching practice while traditional teaching practice was continued with the control group. The final lessons of trainees of both the groups were assessed. The i/d and I/D ratios were assessed according to Flanders Verbal Interaction Category System. The comparison of both the evaluation results of the two groups showed an improvement in the experimental group on control group with regard to the five skills of teaching by microteaching, viz. set induction, stimulus variation, questioning, response to pupils answers, reinforcement of correct answers and closure of the lesson. Adoption of micro-teaching to teacher education in Bombay City has been recommended. The advantages of micro-teaching in training institutions towards the improvement of practice teaching have been discussed.

605 MEHROTRA R N, KATIYAR S N: Teacher education and social change - report of the proceedings of the first Asian Conference on Teacher Education, Bangalore June 1971. Delhi, Indian Association of Teacher Education, 1971. 224p.

Besides giving an overview of the proceedings of the conference, it contains adresses given at formal occasions and the papers presented and discussed during the conference. Theme of the discussion haxhas been categorized in four sections as follows: 1) general and social change - a) modernization and social change; b) teacher education and socio-economic change; c) teacher education and education of minorities; 2) some issues in teacher education - a) in-service education; b) teacher education curricula: integration; c) innovations in teacher education; 3) International perspectives - a) international cooperation in teacher education; b) teacher education in different countries. The two appendices give the detailed programme of the conference and the list of delegates.

606 MISRA A: Improvement of the quality of teachers. Bulletin of the West Bengal Headmasters' Association 1972, 21(6), 248-52.

The various programmes undertaken in India for the improvement of quality of teachers have been discussed. The following suggestions have been given to improve the quality of teachers: 1) the content of teacher education should be aimed at developing the interdis-

ciplinary character of education; 2) the pedagogic aspect of teacher education programme should emphasise subject content; 3) with regard to the practical aspect of training each student should be required to teach adequate number of lessons in two to three school subjects under proper supervision of a faculty member; 4) quality teachers should be recruited to teaching profession and the spread of subjects in teachers' colleges in each State must be related to the subjects taught in the schools, and the number of students taking a subject must be determined according to the demand; 5) the National Council of Educational Research and Training and the University Grants Commission should collaborate in organising inservice education and the educators should possess at least double Masters degree and be called to inservice courses frequently; 6) faculty members should be given training in methodology and inter-disciplinary research, the standard of research programmes in education be raised considerably.

607 MOHAN MATHEW, VIJAYAN K: Professional training for junior college teachers: the opinion of college teachers. Journal of Educational Research and Extension 1972, 9(2), 83-7. 6 ref.

The study is based on the responses of 255 men and 175 women college teachers of South Kerala to an opinionaire. The findings are: 1) though a majority favoured professional qualification for high school teachers, only 38% opined that Master's degree holders should be given professional training for teaching in junior colleges; 2) seventy one per cent opined that professional training would improve the efficiency of junior college teachers; refresher courses for new teachers and educational seminars were desired for improving the quality of teaching in junior colleges; 3) though majority of teachers agreed to the need of professional training, they disfavoured it to be modelled after B.Ed. course; 4) most teachers felt that knowledge relating to individual differences, effective memorisation and motivation, programmed materials, audio-visual aids etc. are essential for effective teaching at the junior college level; however, only 7.7% desired that the training course be conducted in B.Ed. colleges; 5) men teachers were more strongly in favour of professional training than women; however more women than men gave positive responses with regard to the need for the knowledge of human relationship for college teachers; and 6) experienced teachers were more favourable towards professional training than the inexperienced or the less experienced.

608 **SAIKIA S:** Study of practice teaching of teachers-in-training. Education Quarterly 1972, 24(1), 39-42.

One hundred and thirty four B.T. students of Gauhati University were interviewed regarding their practice teaching. It was found that the trainees do not take practice teaching very seriously. Lack of proper supervision, absence of reasonable number of demonstration lessons and failure on the part of the training college to insist on rules and regulations for teaching practice are the main causes for the neglect. The trainees themselves offered the following suggestions for the improvement of practice teaching: 1) there should be roll call in the schools where practice teaching is done so that trainees are compelled to attend the schools for practice; 2) a staff member from the university should always attend the schools where students do practice teaching; 3) students should prepare the lesson plans themselves; 4) there should be more demonstration lessons; 5) supervision should be regular; 6) practice teaching should be done throughout the year instead of holding it for a month; 7) frequent inspection and guidance from the headmaster should be available; 8) the number of subjects to be taken by a candidate should be reduced; 9) rules for teaching practice should be strictly enforced.

TEACHERS

609 **DESAI N B:** Strengths and weaknesses of a popular teacher. Educational Forum 1972, 17(3-4), 25-42.

The strengths and weaknesses of popular teachers were ascertained through the replies of the students of 10th standard and 11th standard to a questionnaire. Analysis of the data revealed that punctuality, impartiality, gentleness, frankness etc. were the main favourable factors determining the popularity of teachers whereas irregularity, partial attitude, etc. determined the weaknesses of teachers.

610 **HARBHAJAN L SINGH:** Job satisfaction of teachers: a survey of research. Journal of Educational Research and Extension 1972, 9(2), 95-106. 36 ref.

Presents a survey of the studies conducted on job satisfaction of teachers. Factors studied under the subject have been discussed in two parts viz. job variables and personal variables. The aspects of administration, rapport with other teachers, facilities, salaries, curriculum and students are discussed under job variables, whereas biological factors and psychological factors are dealt with as personal variables.

611 KALE P: Career of the secondary school teacher in Poona. Bombay, Nachiketa, 1972. xii, 157p.

This is an empirical study based on intensive interviews with 105 secondary school teachers selected from various schools of Poona and also on other data collected from various sources. The objectives of the study are: 1) to analyse the organisational structures of different types of secondary schools in Poona and to locate the place of the teacher within the organization; 2) to explore the relationships between educational institutions and social class, caste, language and religion based ethnicity as they are relevant to the teaching career; 3) to analyse the teacher's role in defining the situation in the class room; and 4) to explore and analyse different aspects of teaching career including the individual's adjustments and mobility patterns. The problem has been divided into five chapters: 1) theoretical frame work of the study; 2) teacher and students; 3) the teachers in the authority system of the secondary schools; 4) career analysis and 5) Poona teachers' status and role in a cross-cultural perspective.

612 VERMA M R: Job adjustment and its relationship with teacher efficiency. Journal of Education and Psychology 1972, 30(3), 198-203.

The sample for this study consisted of 205 teachers (including 70 women) of classes IX-XI belonging to 15 randomly selected higher secondary schools of Meerut District in U.P. Teachers belonging to rural and urban areas, Government and private schools and teaching different subjects were properly represented. A checklist having 30 aspects of the teachers' job was prepared and supplied to the sample with instructions to rank the listed factors in order of their relative importance to them and indicate the degree of satisfaction enjoyed by them on each of these factors. The data were analysed and also job adjustment scores of the sample obtained. There was a high degree of correlation between teaching efficiency and job adjustment. About one third of the teachers expressed dissatisfaction with their job. Dissatisfaction with individual factors ranged from about 20% to 50%. The results further showed that the factors which were ranked relatively higher but on which relatively less number of teachers expressed satisfaction were social recognition, salary, opportunity to increase qualifications, nearness of home and load of work. No significant difference was found between men and women teachers and Government and private teachers regarding job satisfaction.

613 CHATTERJEE S D: Problem of individualization in education. Journal of Education and Psychology 1972, 30(3), 179-84. 6 ref.

Though the requirements of individualization of education apparently run counter to those of socialization of education, a good system of education must try to incorporate certain minimum essential features of both these approaches. A certain amount of heterogeneity among the learners being inevitable in a classroom, the educational methods have to be so modified and adopted that i) individual learners are permitted to grow and derive benefit from courses taught in an optimal fashion, ii) the heterogeneity present in the class is made a dynamic source of enrichment of inter-individual interaction in the class, thereby creating a more positive atmosphere facilitating learning, and iii) the learners are permitted to acquire skills, attitudes and competences at paces suited to each individual. Individualization within the group situation has been accepted as the most scientific solution. Advantages of grouping should be fully utilized only to the extent that the individuals are fairly homogeneous within the subgroups to benefit from group treatment. Keeping in view the contingencies indicated by Kingsley and Garry (1967), the following model has been suggested for classifying individualized methods of teaching-learning processes: A. Traditional Teaching-learning Situations; B. Creative Projects; C. Leadership Opportunities. Some such methods which also help the individual to participate optimally in the group and community life have been listed. A fully spelt out educational psychology of the individualisation process has been underlined as essential.

614 DEVI O S, ASHA ARORA: Feedback from the examination hall. Rajasthan Board Journal of Education 1972, 8(1,2), 18-27.

The mistakes made in written expression by 599 candidates in compulsory English and Advanced English papers of Secondary School Examination conducted by the Rajasthan Board of Secondary Education in 1972 have been analysed under two heads - a) syntactic mistakes, b) spelling mistakes. The analysis of the syntactic errors reveals that most of the students were not clear about the usage of concord, negative expression and preposition, tenses, question form, punctuation and capitalization, and articles. They literally copied their mother-tongue (Hindi) pattern in English sentence construction also. The analysis of their spelling mistakes shows that the double consonant rule was wrongly used and the general concept of past tense wrongly extended.

615 GUPTA B P: On teaching poetry. Education Quarterly 1972, 24(1), 26-9.

The objective of teaching poetry at the school level is to communicate the concepts of beauty and value. An experiment conducted on teaching poetry with student participation has been detailed. The first step consists in the teacher's reciting the poem with rhyme. This makes the students appreciate the beauty of the rhyme. Then the teacher recites the poem again, but now with marked emphasis on words and lines. This exercise enables the students to rearrange the poet's words into a prose order and comprehend the meaning. Then the poem is discussed first, stanza by stanza and then in full. Students are provoked to ask questions. A deliberate attempt to relate similies and draw comparisons with apprehensible situations raises doubts in their minds. Students are divided into small groups and the groups are pitted against each other in trying to find out the probable explanations to the various doubts and queries that are thrown up during discussion. Now the stage is set for the teacher to offer to students a clear explanation of the ideas which the poet wants to convey. This is a better way of teaching poetry than to dole out to students the theme and paraphrase right in the beginning.

616 REGIONAL INSTITUTE OF ENGLISH, CHANDIGARH: Teaching English - notes for teachers in training. Delhi, Oxford University Press, 1972. 150p.

Contains discussion on the following topics: 1) principles of language learning and teaching; 2) teaching the elementary stages; 3) teaching of reading comprehension; 4) planning schemes of work - a) introduction, b) teaching grammar, c) teaching reading comprehension, d) teaching composition; 5) use of the mother tongue and the teaching of translation; 6) tests and examinations.

617 SALAMATULLAH: Education of linguistic minorities and teacher education. Education Quarterly 1972, 24(1), 6-8.

It is observed that the question of providing equal opportunities of education to linguistic minorities has not received the attention that it deserves. While the policy of States to adopt the regional languages as the medium of education is a sound one, the neglect of the claim of minorities to have education in their own mothertongue is regrettable. The case of Urdu-speaking minority in some of the north-Indian States is cited as an example. The following suggestions are given with regard to Urdu: 1) Urdu medium schools, classes or sections within classes should be opened as warranted by the number of students whose mother tongue is Urdu; 2) textbooks for students and guidebooks for teachers should be prepared; 3) teacher training institutions should be established where a sufficient number of Urdu medium schools already exist; 4) the State Governments should prepare textbooks and other books in the regional languages as well as in minority languages.

618 **SCOTT** H V: Classroom assignments - a constructive approach to an ignored teaching competency. Canbosco News and Views 1972, 8(3), 8-10.

The classroom assignment is a potent tool in the hands of the teacher to stimulate thinking and direct learning among students. Yet this aspect of teaching remains most neglected. The following criteria should govern assignments to students: 1) possesses definiteness; 2) removes unnecessary difficulties; 3) gives directive to students' work; 4) attempts at apperception; 5) is purposeful; 6) is personalised or individualised; 7) emphasises on essentials; 8) attempts to arouse interest or to stimulate thought.

619 **SINGHA** H S: Qualitative improvement in mathematics teaching. Rajasthan Board Journal of Education 1972, 8(1,2), 51-6.

It has been suggested that logical teaching be replaced by psychological learning supported by an insight into the instructional objectives of mathematics and suitable innovations in the evaluation procedures. The salient features to be introduced in the methodology of teaching are: 1) the teaching should be such as to stress the structure of mathematics; 2) the students should be allowed to discover mathematical relationships themselves; 3) the classroom atmosphere should permit free and frank discussions; 4) wherever possible, activities should be provided so that students learn by doing.

620 **SOOD** J K: Teaching science through discovery. School Science 1971, 9(2), 169-72. 4 ref.

The scope of teaching science through discovery in schools has been discussed. The intellectual activity in classrooms should be initiated through the processes of science or modes of discovering scientific knowledge. Discovery method/inquiry approach could be successfully employed in helping children to classify the objects, and to understand the interdependence of plants and animals. Such activities would enable children 1) to participate in the process of learning; 2) to become self-learners; and 3) to organise and systematise their findings. The teacher would be an organiser of learning activities rather than a disseminator of information. Discovery-based science programmes should take into consideration the characteristics, viz. willingness to investigate, the ability to imagine procedures of doing work etc., of children. For this, the science teacher should create an intellectual climate in the classroom, plan a sequence of

learning activities, and help pupils in selecting activities. However, it should be noted that discovery approach is not applicable in all situations. The teacher should have a knowledge of various schools of thought in discovery learning and a knowledge of psychological and sociological aspects of discovery learning for employing discovery method. The activities organised for learning through discovery should be consistent with the age level of children.

621 VAIDYA N: Improving classroom instruction in science through evaluation-problems and perspectives. Rajasthan Board Journal of Education 1972, 8(1,2), 43-50. 6 ref.

It has been regretted that though much progress has been achieved in the field of evaluation, it had no impact on the improvement of classroom instruction. It has been suggested that science teaching should be based on Gestalt and Piagetian psychology, and that no instructional planning of the conventional variety is required. It has been illustrated how classroom instruction in science can be improved vis-a-vis evaluation.

TESTS AND MEASUREMENTS

622 DATTAR C N, KALRVA K P: Critique of Manifest Anxiety Scale, a pilot study in coeducational and single-sex institutions. Indian Journal of Psychology 1972, 47(3), 239-42. 8 ref.

It was suspected that the Manifest Anxiety Scale (MAS) may not be equally applicable to measure anxiety level of all types of the Indian sample because of lack of sufficient discriminative power in respect of heterogeneous sample. The sample comprised 400 unselected male (N=200) and female (N=200) undergraduate students of both arts and science faculties of coeducational institutions (N=200), and non-coeducational institutions (a girls' college N=100, and a men's college N=100). The subjects were divided into 8 groups and MAS was administered to them. The following are the groups: 1) female science students of non-coeducational institution (NCFS); 2) female arts of non-coeducational institution (NCFA); 3) male arts of coeducational institution (CMA); 4) female arts of coeducational institution (CFA); 5) male science of non-coeducational institution (NCMS); 6) female science of coeducational institution (CFS); 7) male science of coeducational institution (CMS); 8) male arts of non-coeducational institution (NCMA). The CMA group had significantly highest mean MAS score followed by CMS which had again significantly higher mean score than the rest. Since no viable explanation can be given for these conflicting results, it is suspected that MAS may not be a proper tool to differentiate Indian sample.

623 GOYAL R P: Rating scale for teachers for identifying creative potential. Journal of Educational Research and Extension 1972, 9(2), 88-94. 7 ref.

Presents a Teacher Rating Scale to be employed by teachers and research workers to identify potentially high creative children in schools. The procedure in developing the scale consisted of: 1) representing the following traits of intellect and personality on rating form: (i) fluency; ii) flexibility; iii) originality; iv) high level of energy; v) absence of repression and suppression; vi) introversion; vii) independence; viii) openness of mind ix) tolerance of ambiguity; and x) entertaining opposing values; 2) preparing sixty statements pertaining to each trait and referring to the positive qualities and descriptions of behaviour that were likely to be exhibited in and outside the classroom; 3) developing a criterion analysis form representing the above sixty statements; 4) preparing a final form of Teacher Rating Blank of 40 statements selected on the basis of the judgment of 7 teacher educators and 7 school teachers and principals. The items used for the construction of the Teacher Rating Scale have been tabltabulated in 4 sets and the method of rating has been explained. The validity of the Scale has been tested.

624 KUNDU G: Comparison of the Likert and a new technique of attitude measurement. Indian Journal of Psychology 1972, 47(3), 245-58. 16 ref.

A new technique of attitude measurement called Factor Dividing Rating Method has been developed. This method has been compared with the Summated Rating technique of attitude measurement suggested by Likert. The following conclusions have been arrived at: 1) the new technique has some additional advantages over the Likert technique; they are: a) it avoids the use of judges, raters and errors arising therefrom; b) the total score of an individual has clear meaning since many patterns of response to the various items might not produce the same score provided the attitude scale with fewer items is not used; c) each score of an individual bears either plus or minus sign which clearly indicates the attitude; d) it makes possible the ranking of individuals in terms of their favourable or unfavourable attitude; 2) the reliability coefficient of the new technique is higher than the Likert technique; 3) the new technique can be applied to the attitude scale constructed as well as data collected according to Likert technique with some changes; 4) the scale construction of the new technique is similar to Likert technique; 5) method of objectively checking the statement is followed and it assumes that the new technique measures the absolute attitude; 6) like the Likert technique, the final score of a respondent is based on an algebraic sum of the weighted scores.

625 TRIPATHI S N: Suggestions for adapting TAT for Indian conditions. Journal of Education and Psychology 1972, 30(3), 185-90. 4 ref.

The Thematic Apperception Test is a widely used projection test of personality. The original pictures of Morgan and Murray have not been found very helpful in the Indian context and a number of adaptations have been made by Indian psychologists changing the dress and environmental setting. However, they fail to bring forth certain emotional and social problems which these very pictures evoke in the Western subjects. Some selected pictures in the Murray's set which pose special difficulty have been pointed out and suitable changes suggested. It has been recommended that the area approach of Bellack should be combined with the fantasy provoking pictures of the Murray series for developing a TAT suited to Indian conditions.

626 VASANTHA RAMKUMAR: Measurement of self concept, Q-technique as a method. Journal of Education and Psychology 1972, 30(2), 99-105. 31 ref.

Rating technique, projective technique and Q-technique are the various methods employed to measure the self concept as an organised construct in its entirety. The limitations of the first two techniques have been mentioned. The appropriateness of Q-technique and Q-sort to measure self concept has been discussed. The use of Q-technique is most appropriate when self concept is operationally defined as the cluster of the most personal meanings a person attributes to the self, and the ideal self concept defined as the self concept which the individual would most like to possess, upon which he places the highest value for himself.

627 VERMA S K, DWARKA PERSHAD, KAUSHAL P: Gesell drawing tests as a measure of intelligence in the mentally retarded children. Indian Journal of Mental Retardation 1972, 5(2), 64-8. 8 ref.

Gesell's Drawing Tests (GDT) were administered to 54 mentally retarded children in order to find out the utility of the test as a measure of intelligence. Besides these, 30 subjects in the sample were given Seguin Form Board (SFB) test and the other 24 Vineland Social Maturity Scale (VSMS). The results revealed that both SFB test and VSMS have a high degree of correlation (.91) with GDT and GDT could be used as a test of intelligence in mentally retarded children.

628 NANDEKAR D J: Occupational preparation of out-of-school youth. Manpower Journal 1972, 8(2), 88-97.

Three kinds of programmes with educational bias may be considered for the occupational preparation of 'out-of-school youth', viz., i) training programmes for persons desiring training in occupations in which they are already employed, ii) preparing youth for self-employment, and iii) training programmes for others in trades for which there is adequate demand. Before commencing programmes it is necessary to conduct three ad-hoc surveys: 1) to assess the number of dropouts in selected areas for ascertaining their employment status and training desires and needs; 2) to identify occupations in which training programmes should be devised; and 3) to locate areas for self-employment and find out their vocational needs. As a long-term measure, an occupational cell may be established to identify occupational requirements on a continuous basis so that correlation between training and employment needs is fully ensured. In conducting studies and formulating programmes, the experience already gained by similar on-going projects in the country will be useful.

629 WORKSHOP ON SANDWICH COURSES IN TECHNICAL EDUCATION, MARCH 1972: Calcutta, Technical Teachers' Training Institute, 1972. 62p. viii.

This brochure gives the papers that were read, the lectures and discussions that took place at the workshop and the comments thereon. Following are the themes of the discussions: 1) Sandwich courses - principles and practices; 2) structure and function of sandwich courses - academic aspects; 3) sandwich courses - organisational aspects; 4) industrial training in sandwich courses; 5) my reactions to sandwich training developmental aspects; 6) general discussions and recommendations.

630 SAPRA C L: Measurement of educational wastage - a review of methodologies. New Delhi, National Council of Educational Research and Training, 1972. 25p.

A paper presented at the Regional Training Seminar on Educational Statistics convened by the Asian Institute of Educational Planning and Administration at New Delhi in December 1970. After defining the educational wastage and ascertaining the magnitude of the problem in the Asian region, methodologies used in the region have been reviewed and certain suggestions have been made for improvement in the methodologies.

List of Periodicals Abstracted

Bulletin of the West Bengal Headmasters' Association 1972: V 21, No 6
Cenbosec News and Views 1972: V 8, No 3
Economic and Political Weekly 1972: V 7, Nos 42, 45, 48
Education and Psychology Review 1971: V 11, No 4
Education Quarterly 1972: V 24, No 1
Educational Forum 1972: V 17, Nos 1-4
Educational India 1972: V 39, No 2
IEE-IERI Proceedings India 1972: V 10, No 5
Indian Journal of Adult Education 1972: V 33, Nos 10-12
Indian Journal of Medical Education 1972: V 11, No 2-3
Indian Journal of Mental Retardation 1972: V 5, No 2
Indian Journal of Pharmaceutical Education 1972: V 6, No 2
Indian Journal of Psychiatry 1972: V 14, No 4
Indian Journal of Psychology 1972: V 47, No 3
Indian Journal of Social Work 1972: V 33, No 2
Indian Publisher & Bookseller 1972: V 22, No 9
Journal of Education and Psychology 1972: V 30, Nos 2, 3
Journal of Educational Research and Extension 1972: V 9, No 2
Journal of the Gujarat Research Society 1972: V 34, No 1/133
Manpower Journal 1972: V 8, No 2
NIE Journal 1972: V 6, No 6
NIHAE Bulletin 1972: V 5, No 2
Psychological Studies 1972: V 17, No 2
Publishers' Monthly 1972: V 14, No 11
Quest in Education 1972: V 9, No 4
Rajasthan Board Journal of Education 1972: V 8, Nos 1, 2
School Science 1971: V 9, No 2
Social Action 1972: V 22, No 4
Swarajya 1972: V 17, Nos 14, 17, 18
Technical Manpower 1972: V 15, No 10
University News 1972: November; V 10, No 12

Newspapers

Hindu: 29 November 1972
Hindustan Times: 10, 12 November; 20 December 1972
Hindusthan Standard: 6 November; 23 December 1972
Hitavada: 1 October 1972
Patriot: 3 October 1972
Statesman: 12 December 1972
Times of India: 11, 12 October; 19 December 1972
Tribune: 17 October 1972

SPECIAL SECTION

AGRICULTURAL EDUCATION - II

A83 ATWAL A S Ed: New concepts in agricultural education in India. Ludhiana, Punjab Agricultural University Press, 1969. xxi, 683p.
The book is collection of papers. The papers are grouped under the following heads: 1) perspective; 2) guidelines for undergraduate and postgraduate teaching; 3) role of the library; 4) teaching of physical and biological sciences; 5) strategy in agricultural research; 6) research in agricultural universities; 7) arid zone problems; 8) agricultural universities and extension education.

A84 CONVENTION OF THE ASSOCIATION OF INDIAN AGRICULTURAL UNIVERSITIES, 2nd, PANTNAGAR, APRIL 1971: Proceedings. Pantnagar, U.P. Agricultural University, 1971. 363p.

The convention was split into four groups: 1) general administration, including finance; 2) research and extension; 3) resident instruction and 4) student affairs. Forty working papers were presented and after discussion, several recommendations pertaining to the following aspects were made by the four groups: I - a) financial resources of the agricultural universities, b) institutional evaluation, c) staff recruitment policies and procedures, d) coordination of teaching, research and extension activities, e) delegation of powers, f) membership of the Inter-university Board of India and Ceylon; II - a) pattern of coordination between the experiment station, college and department at the university level, b) greater flexibility in the working of ICAR coordinated schemes, c) free exchange of research material among different universities and institutions at national and international levels, d) developing the role of agricultural economics in agricultural universities, e) coordination of extension activities of the universities, Centre, State and private agencies, f) national demonstrations and adaptive research, g) extension literature and publications, etc. h) two-way channel between extension and research; III - a) common examination for admission and award of ICAR fellowships to postgraduate students, b) desirability of evolving a common calendar, grading system and instituting a system of pooled admissions, c) evolving a common core programme in all agricultural universities in their undergraduate and postgraduate degree programmes, d) uniform system of grading with particular reference to multicampus agricultural universities, e) minimum requirements of staff, space and equipment in the various faculties in an agricultural university;
IV - a) participation of students in decision making regarding students' affairs, b) closer contact between teacher, taught and parents, c) common trimester breaks, d) integration of curricular, co-curricular and extra-curricular activities, e) earn while you learn scheme, f) placement.

A85 CONVENTION OF THE ASSOCIATION OF INDIAN AGRICULTURAL UNIVERSITIES, 3rd BANGALORE, MARCH 1972: Supplement - papers presented. Bangalore, University of Agricultural Science, 1972. 101p.

The following are the papers included in the volume: 1) Purohit M L - uhiform standards of teaching in multicampus university; 2) Purohit M L - Improvement of agricultural education; 3) Atwal A S - Education for rural India through agricultural universities; 4) Sawant A - Fundamental research in agricultural university; 5) Ahluwalia S S - Formation of campus council in each agricultural university; 6) Chauhan H S - Merits and demerits of quarter trimester and semester and traditional systems of education; 7) Chauhan H S - purpose and role of trimester and summer breaks.

A86 CONVENTION AND WORKSHOP OF AGRICULTURAL UNIVERSITIES IN INDIA, Ist LUUDHIANA, FEBRUARY 1970: Proceedings. Ludhiana, Association of Indian Agricultural Universities, Punjab Agricultural University, USAID, 1970. iv, 274p.

The first convention of agricultural universities and workshop was held at Punjab Agricultural University. Nine agricultural universities participated. Important academic, financial and administrative matters were discussed. The delegates broke into 4 working groups, papers were presented on specific topics, discussion were held and recommendations were then considered at a joint session of all delegates. The specific papers and the recommendations are presented.

A87 DWARKINATH R: Agricultural university in India. New Delhi, United States Information Service, (Year ?). 12p.

The central feature of the agricultural universities is that they bring about an integration of three functions: research, teaching and extension at the level of the subject-matter departments. Research, teaching and extension activities are oriented to the needs and problems of the farmers. The distinguishing features of the agricultural universities enumerated by the Committee headed by R.W. Cummings in 1962 (see IEM Vol 7, No 3 Abstract No. A60) have been listed. The progress in research achieved by the Indian agricultural universities, introduction of innovations in teaching such as trimester system and continuous evaluation, introduction of postgraduate work and its advantages, the importance of extension services, some of the extension activities undertaken by the University of Agricultural Sciences in Mysore have been given.

A88 GARG D K, SRIVASTAVA S S, KELKAR M G Eds: Improving agriculture education in India. Ajmer, Regional College of Education, 1970. 106p.

It is a collection of articles on some important aspects of school level agricultural education. "Community as an aid to teaching agriculture in secondary school", suggestions for improving day-to-day teaching of agriculture in secondary schools", and "improving the quality of agricultural education under internal grading system", are some of the topics discussed.

A89 GAUTAM O P: Growth of agricultural education. New Delhi, Indian Council of Agricultural Research, 1972. 16p.

The following aspects have been dealt with in the pamphlet: 1) development of agricultural education during post-Independence period; 2) reorganization of agricultural education and development of agricultural universities; 3) affiliated colleges of Agriculture and veterinary sciences; 4) growth of dairy education in India; 5) growth of fisheries education in India; 6) growth of agricultural engineering education in India; 7) growth of home science education in India; 8) diversification and specialization in higher agricultural education; 9) ICAR and coordination of agricultural education; 10) financial support for agricultural education; 11) current schemes of agricultural education; 12) scholarships and followships; 13) improvement of quality of education and teachers' training programmes; 14) revision of courses and curricula; 15) new programmes; 16) future outlook.

A90 HARYANA. ECONOMIC AND STATISTICAL ORGANIZATION: Requirement and availability of agricultural personnel in Haryana including agricultural engineers and veterinary personnel (1969-74). Chandigarh, Government of Haryana, the Organization, 1970, 72p.

This report seeks to provide an analysis of the likely demand for and supply of agricultural and veterinary Graduates and Post-graduates as also the agricultural engineers during the IV Five Year Plan. The report also makes specific recommendation for adjustment, orientation and reorganization of the existing curricula at various levels.

A91 INDIA. JOINT INDO-AMERICAN STUDY TEAM: Report. Part I - a method of assessing progress of agricultural universities in India. New Delhi, Indian Council of Agricultural Research, 1970. vii, 128p.

It was thought that a stage has been reached when it is necessary to develop suitable criteria and methodology for measuring the progress made in developing an agricultural university and in achieving its aims and objectives. The Government of India set up a study team in consultation with the USAID and ICAR for undertaking the study. This is the first part of the report of the study team which recommends method for judging the progress and effectiveness of an agricultural university. The method was developed and tested at the Punjab Agricultural University and improved upon on the basis of the experience gained. The following are the aspects dealt with in the report: 1) a broad outline of the essential elements of an institution and to illustrate the applicability of this framework to a university that is to serve the rural society; 2) the essential features of an agricultural university; 3) the methods and procedures for obtaining and analysing information that will lead to meaningful judgements regarding the effectiveness of an agricultural university in fulfilment of its goals.

A92 INDIA. JOINT INDO-AMERICAN STUDY TEAM. Report. Part II - the Punjab Agricultural University, an assessment of progress to 1970. New Delhi, Indian Council of Agricultural Research, 1970. xiv, 153p.

The Government of India set up a study team to develop suitable criteria and methodology for measuring the progress made in developing an agricultural university and in achieving the intended aims and objectives. The report of the team is in two parts. Part I is a method of assessing progress of agricultural universities in India (see Indian Educational Material 1972, Vol 7, No 4. Abstract No. A91). Part II is an assessment of the progress of the Punjab Agricultural University upto 1970. The use of the method and procedures detailed in the first part has been illustrated. Recommendations for the future are set forth for the consideration of university leaders.

A93 INDIA. MINISTRY OF AGRICULTURE: Agricultural research in India, new horizons and perspectives. New Delhi, Indian Council of Agricultural Research, 1971. 34p.

Agricultural research in India before Independence has been briefly sketched. The three important developments which were to radically change the approach to agricultural research and education in the country took place during the last decade. They are: 1) the establishment of agricultural universities in different States starting with

the Uttar Pradesh Agricultural University at Pantnagar in the year 1960; 2) the reorganization of the Indian Council of Agricultural Research as a central body for coordinating, directing and promoting agricultural research and education in the whole country; 3) the formulation and implementation of a number of All India Coordinated Research Projects in the fields of agriculture and animal sciences. The recent advances in agricultural education and research have been detailed.

A94 INDIA. MINISTRY OF EDUCATION, RURAL HIGHER EDUCATION COMMITTEE (1954): Rural Institutes, Report. Delhi, the Ministry, 1956. iv, 79p.

The Committee was set up to a) undertake a comprehensive survey and appraisal of promising ideas, institutions and experiments in the field of higher education in rural areas; b) to determine what specific projects and institutions should be encouraged to carry on experimental work in this field; c) to recommend a possible pattern for rural universities with particular reference to i) the aims, organization and content of higher education in rural areas, ii) its relationship to Basic education and secondary education, etc., d) to suggest ways and means of making education in the existing universities more useful and related to rural needs and problems. The following are the chapter headings:
1) aims and objectives of higher education in rural areas;
2) research, courses and services to the community;
3) admission to rural institutes and examinations and assessment;
4) organization and administration of higher education for rural areas; 5) financial implications of providing higher education.

A95 KRISHNAPPA M V: Address at the third conference of Principals of Extension Training Centres and Basic Agricultural Schools, Simla. New Delhi, Indian Council of Agricultural Research, 1956. 4p.

The extension movement has a vital role to play in the implementation of the Five Year Plans. For this, the Gram Sevaks and Sevikas are trained at the Extension Training Centres. The National Extension Service Organization envisages the setting up of some 5000 Blocks in the country by the end of the Second Five Year Plan. During the First Plan period, 54 Basic Agricultural schools were set up. Side by side, 43 Extension Training Centres were established. To meet the expanded need for trained personnel, 41 more Basic Agricultural Schools and 18 more Extension Training Centres are proposed to be set up during the Second Five Year Plan. The training of supervisory personnel has also been taken up more actively. Facilities for training rural artisans are also being expanded by attaching 25 workshops to the training centres. Additional home science wings are to be set up during the Second Five Year Plan to train Gram Sevikas for

undertaking programmes of improvement of rural homes. Another scheme to be undertaken is the development of farm youth organizations in the villages for which Gram Sevaks will be given special training.

A06 MADDU G R, KULKARNI D M, SRIVASTAVA J K, RAINA J N, NAGRAJ V K, SHUKLA P K: Teaching agriculture in the multipurpose secondary school. New Delhi, Directorate of Extension Programmes for Secondary Education, 1961. 73p.

In response to a persistent demand for good teaching material for the use of the agriculture teachers in the multipurpose schools, the Directorate of Extension Programmes for Secondary Education arranged for a working group of selected teachers of agriculture from different States to work under the guidance of the Ohio State University Team of consultants attached to the Directorate and prepare a handbook for the agriculture teacher. As both curricula and syllabi are prescribed by individual States, no effort has been made to make recommendations in these areas. The handbook deals with such topics as principles, objectives, accommodation, furnishing and equipment, audio-visual and instructional aids, preparation of lesson plans, teaching methods and cocurricular activities.

A07 Model Act for Agricultural Universities in India. (In Naik M C, Sankaran A. History of Agricultural Universities. New Delhi, Oxford and IBH, 1972. 245-82).

The Indian Council of Agricultural Research in association with some Agricultural universities has framed the Model Act for adoption by all the States. The Act consists of 9 chapters: 1) short title, extent and commencement of the Act, and definitions; 2) incorporation, territorial jurisdiction, objects, powers and functions of the proposed university; admission to it, and visitation and inspection; 3) authorities of the university, viz. the Board of Management, the Academic Council, etc., their constitution and powers and duties; 4) the officers of the university like the Chancellor, Vice-Chancellor etc., their powers and duties; 5) research and extension; 6) appointment of teachers, officers and staff; 7) funds and accounts; 8) statutes and regulations; 9) residence of students, annual reports, transitory provisions, transfer of certain colleges and institutions to the university, etc.

A98 MUKERJI S K: Agricultural education in India, a review. Indian Farming 1965, 15(9), 15, 17).

The measures that should be undertaken during the Fourth Plan period for the development of agricultural education have been listed as follows: 1) at the primary school stage, agriculture may be a craft subject serving only as a vehicle for general education, in the integrated pattern of Basic education at the primary school stage, agriculture may be the basic craft in rural areas; vocational agricultural education of one or two years' duration may be given to dropouts from middle and elementary schools; 2) about 400,000 students in rural areas may be diverted to terminal agricultural stream of vocational competence in multipurpose higher secondary schools; but this course should not be a blind alley; there may be provision for taking up specialised courses in broad fields of agricultural sciences in agricultural polytechnics; exceptionally talented boys who complete the terminal course may be sent for college education after an year of adjustment course; 3) the duration of the village level workers' training should be increased by another year to strengthen their knowledge; the existing gramsewak and sevika training centres should be upgraded to agricultural polytechnics offering both certificate and diploma courses; farmers and farmers' sons may be given courses in apiary, poultry, piggery, dairying, etc. for self employment; 4) accent should be on qualitative improvement instead of quantitative expansion of first degree colleges; the duration of the B.Sc. (Agri) course and the curriculum should be standardised throughout the country; 5) the standard of post-graduate education should be upgraded; there should be integration of research, extension and education, and strengthening of universities to take up these functions from Government departments of agriculture; 6) the funds of the Government should be channelled through Indian Council of Agricultural Research for development of agricultural education; 7) agricultural graduates should be provided adequate facilities for practical training in farm management after graduation.

A99 MYSORE. DIRECTORATE OF EVALUATION AND MANPOWER PLANNING. SOCIAL WELFARE DEPARTMENT: Survey of foreign trained personnel in agriculture and allied departments. Bangalore, the Department, 1970. 16p.

The main purpose of the study is to ascertain whether the foreign trained persons have been entrusted with that type of work for which they were trained abroad and whether their specialised knowledge is being fully utilised in a manner beneficial to the State. Out of the 98 returned participants, 64 were addressed and 55 (86%) have responded. The data regarding the age, experience and academic background have been analysed. While 93% of the respondents had after

return hold at some time or other a post in which they could utilize their training, only 67% could utilize the benefits of their training in their Present posts. The reasons for the misapplication of trained talent (33%) are: reversion of officials due to problems connected with seniority in service, frequent transfers and administrative and other problems of coordinations.

A100 NAIK K C: University of Agricultural Sciences, present status and future projections. Bangalore, University of Agricultural Sciences, 1971. 69p.

A summary of the achievements and progress made so far is given. The projections for the next ten year period have been attempted.

A101 NAIK K C, SANKARAM A: History of agricultural universities. New Delhi, Oxford and IBH, 1972. x, 296p. 47 ref.

This is a revised and enlarged addition of the 1968 publication. Analyses the development of Indian agricultural - educational and research - institutions. The main objectives of the book are: 1) to make available a history of education in agricultural sciences in India with reference to the origin, development and functions of agricultural universities; 2) to chart the currents and cross-currents which have marked the development of agricultural higher education since the days of the British rule in India; 3) to encompass over a century the literature of the controversy and discussion reflecting the social and material hopes of the farmers, administrators, educators and planners; 4) to bring into sharper focus the sensitive areas of the problems of the teacher and the student where curative measures are possible under the new concept and philosophy of the agricultural universities; 5) to suggest new approaches for technical assistance in order to make it more effective and rewarding; 6) to provide guidelines for institutions building towards maturity. The appendices include a) Model Act for Agricultural Universities in India; b) constitution and by-laws of the American Association of Land-grant colleges and State universities; c) organizational charts of some agricultural universities.

A102 PATEL A U, RAJENDRA PAL SINGH: Teaching agriculture in India. Agra, Ram Prasad and sons, 1968. viii, 320p.

The book is intended to help the teachers of agriculture at the colleges, secondary schools and extension training centres. The following are the chapter headings: 1) agricultural education in

India; 2) why to have agricultural education; 3) personality of an agricultural teacher; 4) developing a course of study; 5) programme of work for an agricultural teacher; 6) teaching learning process; 7) principles of teaching vocational agriculture in high schools; 8) preparing lesson plans; 9) teachers' behaviour and specific teaching techniques; 10) methods of teaching vocational agriculture in secondary schools; 11) use of school farm in teaching agriculture; 12) use of home farm in individual instruction; 13) preparation and use of audio-visual aids; 14) guidance and counselling in agricultural education; 15) evaluation in agricultural education; 16) developing public relations; 17) teaching agriculture at college level; 18) teaching agriculture at the extension training centres; 19) agriculture extension and community development programme.

A103 RAMAIAH N S: New-type education the Pusa Postgraduate school would provide. Indian Farming 1958, 8(8), 3-5.

The education provided at the new postgraduate school of agriculture set up at the Indian Agricultural Research Institute (IARI) at New Delhi has been described. The programme of education is under the overall supervision of a Dean of postgraduate studies. The Dean is assisted by a postgraduate council. The heads of the various divisions of the IARI are responsible for the teaching and research activities of the division. Each student's programme is under the guidance of a standing advisory committee consisting of two staff representatives from his major field and at least one from each minor field. The Committee guides the students in the choice of their courses. The programme of training is designed to give the students a sound mastery of their respective fields of specialisation. Two academic years will be required for the course of M.Sc. degree and a further two years for Ph.D. degree. The courses are organised as discrete units or blocks of subject matter. After the completion of the courses the students are given comprehensive examinations including oral examination. Besides, the students have to submit theses. If the training so requires, the students may have to visit the different Central Institutes and substations.

A104 ROY H: Agricultural universities and the Government. Hindusthan Standard 2 August 1972, p.6, cols. 2-7, 1500 words.

The first agricultural university was established at Pantnagar in 1960, and till now as many as 13 agricultural universities have been established in different States. It is suggested that there should be very close coordination between the agricultural university in a State and the State Department of Agriculture. The experts in the Department of Agriculture should be invited to address undergraduate students in order to appraise them of the special problems

of the State. Similarly the university faculty members should help the State Department of Agriculture in solving the problems faced by it in the development of agriculture. It is recommended that a national institute may be set up to coordinate the functions between the State Department and the agricultural university and to provide leadership and guidance for all the agricultural universities in the country. Teaching of basic sciences and humanities should have direct relevance to the development-oriented agricultural education, and with regard to the maintenance of standards in the teaching of these subjects, the agricultural university should have coordination with other universities in the State.

A105 SINGH T P: For a dynamic agricultural education. Kurukshetra 1972, 20(14), 4,5.

The key objectives of the agricultural universities are to undertake research, extension, and educational efforts for increasing agricultural production. The following suggestions are given: 1) undertaking efforts for increasing wheat production and for safeguarding against pests and diseases; 2) taking note of the possible shifts in demand for rice from quantity to quality of products; 3) devoting more attention to increased production of pulses, and evolving higher yielding and short duration varieties of other crops which find place in the food basket of the people; 4) adapting teaching and research to the specific local needs; 5) creating agricultural polytechnics to meet the demands of modernization of agriculture by introduction of farm machinery; 6) developing closer link between the agricultural universities and the State and National Planning Bodies; 7) devising imaginative and effective steps to create new demand and to evolve programmes of career appraisal and employment generation in agriculture.

A106 UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE: Vocational education courses in agriculture. Bangalore, the University, 1972.

The university has developed the following job-oriented training courses aimed at self-employment: 1) postgraduate diploma in intensive crop production; 2) postgraduate diploma course in poultry production; 3) vocational course in bakery technology; 4) postgraduate diploma course in fish culture and technology; 5) postgraduate certificate course in intensive crop production; 6) apprenticeship course for mechanised farming at Raichur. The details of the courses have been given.